The Arris and Gale Lectures

ON

SOME POINTS IN THE PATHOLOGY OF HEART DISEASE.

Delivered at the Royal College of Surgeons of England on Feb. 22nd, 24th, and 26th, 1897,

BY ERNEST H. STARLING, M.D., M.R.C.P. LOND.,
JOINT LECTURER ON PHYSIOLOGY AT GUY'S HOSPITAL.

LECTURE I.

Delivered on Feb. 22nd.

ON THE COMPENSATORY MECHANISMS OF THE HEART.

MR. PRESIDENT AND GENTLEMEN,—In these lectures I propose to deal with certain points in the physiology of the heart and circulation, which are of importance for the understanding of the conditions met with in heart disease. In almost all cases of heart disease we find at some period or other in the course of the disease a hypertrophy of the muscular walls of this organ; and here, as invariably where we meet with hypertrophy of the muscle, we ascribe the hypertrophy to an increased strain thrown on the muscle or to an increased amount of work done by the muscle. We have, therefore, in the first place, to discuss the various physiological mechanisms, in virtue of which the heart is able to re-act to an increased strain thrown upon it in the carrying out of its functions.

The energy of the ventricular contraction is expended in two ways: Firstly, in forcing a certain amount of blood into the already distended aorta, against the resistance presented by the arterial blood-pressure, which itself is directly conditioned by the resistance in arterioles and capillaries; and secondly, in imparting to the mass of blood so thrown out a certain velocity. Thus the energy of the muscular contraction is converted partly into potential energy in the form of increased distension of the arterial wall, and partly into the kinetic energy represented by the momentum of the moving column of blood. The work done at each beat may be calculated from the formula:— $W = w R + \frac{wv^2}{2g}$, where W stands for work, w for the weight of blood expelled at each contraction, R is the arterial resistance or pressure, and v is the velocity of the blood at the root of the aorta. In this equation w R is the work done in overcoming the resistance, and $\frac{wv^2}{2g}$ is the energy expended on imparting a certain velocity to the blood. It will be seen that the energy expended in the second manner is almost negligeable as compared with that spent on distending the arterial wall, and thus on keeping up the mean arterial blood pressure. Thus, if we take the ordinarily accepted figures of 50 grms. of blood for the output from the left ventricle at each contraction, and half a metre per second as the velocity of the blood in the aorta during systole, and 150 mm. Hg as the pressure in the aorta, w R = 102 gram. metres of work, and $\frac{wv^2}{2g} = 0{\cdot}64$ gram metres. Even if the velocity of the blood is quadrupled, as may occur after production of hydræmic plethora, this latter amount will only be increased sixteen times, and so will not nearly approach w R. We may, therefore, neglect the velocity factor in considering pathological changes in the work thrown upon the heart. Any important increase in the work done by the heart can only be conditioned by an increase in one or both of the other two factors—viz., w and R—the amount of blood to be expelled at each stroke, and the resistance offered by the pressure obtaining in the arteries, or caused by any morbid narrowing of any of the orifices of the heart.

In almost all cases of heart disease there is an increase in one or both of these factors. Thus in the case which can be most easily imitated experimentally—viz., stenosis of the aorta—R is largely increased. On the other hand, in pure aortic regurgitation, R may be normal or slightly diminished. During each diastole, however, the ventricle is receiving blood from both sides—viz., from the auricles as well as from the aorta. If compensation occurs, the heart expels almost all the excess of blood which it has received, so that there is a large increase in the factor w. If, as is so frequently the case, stenosis is associated with incompetent valves, both w and R are increased, with a corresponding rise in the work thrown on the ventricular muscle.

Now it is found that the healthy heart is endowed to a high extent with what is known as reserve power, and will respond to largely increased demands on it by the performance of more work, so that the nutrition of the peripheral parts of the body may not suffer. The power of adaptation possessed by the heart can be well shown by imitating experimentally certain well-known pathological conditions. Thus, since the maintenance of the normal arterial blood pressure is intimately dependant on the beat of the heart, any inadequacy in the heart-pump will be at once evidenced by a fall of arterial pressure and a rise of pressure in the large veins near the heart, so that the arterial pressure will serve to indicate whether or not the heart is pumping the normal amount of blood from the venous to the arterial side. Now it is found that we can increase the resistance to be overcome by the heart to three or four times the normal amount without altering in any way the quantity of blood expelled at each beat. Thus we may put a ligature round the pulmonary artery and gradually tighten it until the lumen of this vessel is reduced to a third of its normal extent, without causing any material change in the arterial blood pressure, although, if we connect a manometer with the cavity of the right ventricle, we find that this side of the heart has to perform three or four times its ordinary proportion of work, in order to expel the proper quantity of blood into the pulmonary vessels and so into the left heart. This same power of adaptation is shown if the ligature is applied to the aorta instead of to the pulmonary artery. Instead of increasing the resistance to the outflow of blood from the ventricles, we may augment the work thrown on the ventricular walls by increasing the inflow of blood into them during diastole. This increased diastolic volume of the heart may be brought about either by pressure on the veins of the abdomen, so increasing the venous inflow into the heart, or by destroying the aortic valves and allowing regurgitation to take place from the aorta during diastole. In either case the work done by the ventricles is increased, causing a rise of mean arterial pressure in the first instance and preventing any fall of mean arterial pressure in the second instance. A large number of similar experiments may be devised, but they all teach the same lesson—viz., that within very wide limits the output of the heart is independent of the resistance to the output. Thus the heart possesses in a high degree the power of adaptation to changed conditions, which is the essential characteristic of living organisms; and we have now to see how far we can refer this power to the physiological mechanisms with which the heart is endowed.

Wherever in the higher animals one meets with marked powers of adaptation we are at once inclined to refer such powers to the regulative activity of the central nervous system. We know that the heart is intimately connected by afferent and efferent nerves with the central nervous system, and our first inquiry must be how far these connexions are responsible for the adaptive processes met with in this organ. The nerve-supply of the heart is derived from two sources: from the medulla by means of the vagus and from the spinal cord by the upper three or four dorsal nerves through the intermediation of the sympathetic system. In determining the action of these two sets of fibres on the work done by the heart we must measure their effect on w, the output, and on R, the arterial pressure. The measurement of arterial pressure can be easily carried out by connecting some large artery with a mercurial manometer and registering the excursions of the column of mercury. The measurement of output presents somewhat greater difficulties. Stolnikow and Pawlow practically cut out the systemic circulation altogether, and caused the blood from the left ventricle to traverse an instrument (current-measurer, Stromaiche) which rejected automatically the amount of blood that went through it. This method suffered from the defect that the arterial pressure is, in consequence of the absence of external resistance, extremely low, so that the heart is throughout under highly abnormal conditions. It enjoys, however, the corresponding advantage that R,

though low, is constant throughout the experiment, and the work done by the heart is therefore directly proportionate to the output. Better methods are those based upon the application of plethysmography to the heart *in situ*. We may either, as in Tigerstedt's method, employ the pericardium itself, filled with oil or air, as the plethysmograph, and register the changes in the volume of the heart by connecting the cavity of the pericardium with some form of piston recorder, or we may make use of Roy's cardiometer, a brass sphere which is applied round the heart and is filled with oil. In the latter case the changes in the volume of the heart are recorded by connecting the cavity of the cardiometer with a modification of Roy's oncograph. Useful data may also be obtained by recording directly the extent of contraction of the auricular and ventricular muscle.

Experiments carried out by these methods have led to the following conclusions: 1. On exciting the peripheral end of the vagus the heart is slowed, the diastole prolonged, and the amount of blood expelled at each systole increased. There is, however, a fall of mean arterial pressure, and the increased output is not proportional to the diminished frequency of the beat, so that the total output in any given time is less than that occurring before or after the stimulation. R and w being both diminished, the total work done by the heart is lessened. 2. On excitation of the nerves which reach the heart through the sympathetic system the heart-beat is quickened and there is very often a rise of arterial blood pressure. In nearly all cases the output in a given time is raised above normal, so that the total work done by the heart is increased. The effect of stimulation of these nerves on the output at each systole is variable, and the result of stimulation seems to depend on the kind of nerve-fibre stimulated. Excitation of certain of the cardiac branches of the sympathetic causes a constant increase in the strength of each ventricular beat, and therefore raises the output at each beat. This augmentation of the ventricular contraction may or may not be accompanied by acceleration.

In the living animal the activity of these nerves can only be evoked reflexly or by conditions which affect the medullary centres directly. Of these reflexes the most important are probably those which originate in the heart itself and are carried to the central nervous system by the sensory fibres of this organ. Thus, as Wooldridge showed, stimulation of the central ends of the nerve-fibres, which run to the ventricular walls, may act on the cardiac medullary centres and produce reflexly inhibition or acceleration of the heart's beat or on the vaso-motor centre and cause a rise or a fall of blood pressure. The afferent fibres of the heart, by whose intermediation the reflex fall of blood pressure is produced, in many animals take a separate course, as the well-known depressor nerve.

Now so far as our experiments go, they appear to indicate that all these reflex mechanisms are directed not so much to the compensation of vascular disorders by increased efforts on the part of the heart as to the sparing of the heart by the production of some reflex effect which shall counteract the original deviation. Thus a sudden rise in arterial blood pressure as is produced by a general vascular constriction would in itself tend to increase the work of the ventricles. We find, however, that every such rise of arterial pressure or resistance is accompanied by a slowing of the heart's beat in consequence of stimulation of the vagus centre. This stimulation is partly a direct effect of the high pressure of the blood circulating in the brain and partly a reflex from the walls of the heart itself. Moreover, it seems probable that any increase of resistance to the emptying of the ventricles excites the terminations of the depressor nerve in the heart, so that impulses ascend to the vaso-motor centre which depress the activity of this centre and cause dilatation of the vessels in the abdomen and other parts of the body. On the other hand, a fall of blood pressure is followed by a quickening of the heart-beat, brought about partly by inhibition of the vagus centre and partly by a reflex stimulation of the accelerator fibres. None of these mechanisms, therefore, seem to be directed for the purpose of maintaining that cardiac adaptation which is the necessary condition of compensation in heart disease; and this conclusion is confirmed by the fact that we may divide all the nerves, afferent or efferent, which supply the heart without diminishing to the slightest extent its power of compensation. After such a procedure we find, as before, that an increase of the resistance in the pulmonary artery to three or four times its normal amount does not alter the arterial pressure, the contractions of the right ventricle being augmented in force to the amount of increased resistance to be overcome. The power of adaptation or compensation must, therefore, be an endowment of the muscular tissue itself.

We have now to inquire what are the factors which condition this power of adaptation possessed by the cardiac muscle. Is it peculiar to the heart muscle or does it depend on properties common to all kinds of contractile tissue?

In every case where, in consequence of morbid conditions, increased work is thrown on the heart muscle the contraction is preceded or accompanied by an increased tension of the muscle. In aortic stenosis the increased tension is thrown on the muscle during contraction, whereas in aortic or mitral regurgitation the increase of tension is present just before the contraction in consequence of the augmented diastolic filling of the heart. Now on examining other forms of contractile tissue we find that in all cases increased tension or increased resistance to shortening of the muscle acts as an excitant or additional stimulus, in that the contraction occurring in the presence of such conditions is more powerful and often more extensive than in the unloaded muscle. In recording the contractions of skeletal muscle two methods are made use of, known as the isotonic and isometric methods respectively. In the first the muscle is loaded with a constant weight, which, in order to avoid deformation of the curve, is applied near the axis of the lever which records the muscle contraction. In the second the change of form of the muscle is hindered by making it contract against the resistance of a strong spring. The minimal movement of the spring is magnified to a large extent by a long, light lever, so that we get in this way the changes of tension in a muscle, contracting against a resistance which it cannot overcome. In the first method the tension of the muscle remains the same throughout the contraction; in the second the tension is continually changing, while the length remains practically constant. A comparison of the curves obtained from a muscle by the two methods brings out at once certain important facts. We find that in the isometric contraction the maximum tension of the muscle is attained much sooner than is the maximum shortening in the isotonic curve. Moreover, the isometric curve is flat-topped as compared with the isotonic, so that the effort of the muscle, so to speak, is more prolonged when it contracts against an insuperable resistance than when its contraction or shortening is unchecked. Now the isometric twitch is exactly comparable to the conditions which obtain in aortic stenosis. Under ordinary circumstances the ventricular muscle, after attaining a certain stage of contraction, overcomes the resistance offered by the aortic pressure, and can now shorten without any further check, as is shown by the fact that the systolic plateau of the intra-ventricular pressure curve is usually horizontal. In aortic stenosis, on the other hand, just as in the isometric contraction of the frog's gastrocnemius, the resistance to the shortening of the muscle fibres persists throughout the contraction, so that we have a quicker rise of intra-ventricular pressure to a height above normal and a persistence of this abnormally high pressure somewhat beyond the ordinary duration of a ventricular contraction. Even in the isotonic contractions of voluntary muscle an increase in the load to be lifted, within limits, augments the amount of work done during the contraction. This is estimated by multiplying the weight lifted into the height to which it is raised, and it is found that, although in most cases the height diminishes steadily as the weight is increased, its diminution is not at first proportional to this increase, so that up to a certain point the product of the two factors W and H increases with the increase in W. In a few cases it has been found that there may be even an increase in the height of the contraction with an increase in the weight to be raised.

The effect of tension in augmenting the energy of the muscular contraction is, however, much more strikingly shown if the increased tension be applied before the beginning of the contraction. Thus, if, when using the isometric method, the initial tension on the muscle is raised from 0 to 25 grms., the height of the curve increases steadily with the augmentation in tension. Heidenhain showed that the same held good for isotonic contractions and that a muscle-twitch is always higher in a loaded than in an after-loaded muscle. Moreover, this increase in mechanical effect is accompanied by an augmentation of all

the chemical processes which take place during contraction, as is evidenced by a considerable rise in heat-production found under these circumstances. This excitatory effect of initial tension seems to be common to all forms of contractile tissue, and was, in fact, studied on heart muscle before it had been established for skeletal muscle. Thus it has long been known that the apex of the frog's ventricle will not contract under normal circumstances, but will do so if its cavity is distended with normal saline at a pressure of from 45 to 50 cm. water. In this case a small mechanical stimulus is usually required to bring about the first contraction, which is then followed by a whole series of spontaneous beats. If the lower third of the frog's ventricle be isolated physiologically in the living frog by crushing a ring of tissue between it and the upper part of the ventricle it will, under normal conditions, never beat again. It can, however, as Heidenhain showed, be made to beat rhythmically by clamping the aorta, so raising the pressure in its interior and thereby the tension on the muscle fibres in its walls. Similar observations have been made on the smooth muscle of the ureter as well as on the thin-walled tube which forms the snail's heart. In the latter case the spontaneous beats may often be entirely abolished if the tension within the heart be reduced by cutting it and allowing the contained blood to escape. The spontaneous rhythmic beats may be at once brought back by raising the pressure in the heart a few mm. water by allowing a little snail's blood to flow into it.

We must conclude, therefore, that this susceptibility to tension is a general property of all contractile tissues. In many respects the effect of tension resembles that of a constant electrical stimulus, so that it is said that tension increases the excitability or is itself an excitant of contraction. The acceptance of this view, however, lands us in apparent conflict with certain other properties of the cardiac muscle. One of the chief distinctions between skeletal and cardiac muscle lies in the fact that whereas in the former the height of contraction is, within certain limits, proportional to the strength of stimulus, in cardiac muscle the contraction is always maximal and is the same whatever strength of stimulus be employed. How, then, can we compare the tension of the muscle to an electrical stimulus and speak of increased excitation by increased tension causing a greater contraction? The same difficulty, however, exists also in the case of voluntary muscle, since the beneficial effects of tension on the subsequent contraction is to be observed even when maximal stimuli are used throughout. The maximal contraction of a stretched muscle is greater than the maximal contraction of a muscle which is unextended before it begins to contract. In the case of the heart all contractions are maximal—that is to say, are not altered by strength of stimulus used. They are, however, altered considerably by the tension on the ventricular walls before and during contraction. What the exact nature of this tension effect is it is difficult to say. That, however, it resembles an excitatory effect in causing increased tendency to katabolism of the muscular substance is shown by recent experiments in Heidenhain's laboratory. This observer found that mere extension of a muscle caused an increased formation of acid in the muscle, just as occurs during an actual contraction. Moreover, as Professor Horsley has recently pointed out to me, although a short loading of a muscle increases its effectiveness, prolonged loading causes fatigue. We must, therefore, at present be contented with regarding the improving action of tension on the contractibility of muscle as a general property of all contractile tissues, leaving an explanation of this action to further investigation.

There is yet a further result of morbid conditions in the heart which we have not yet considered, and that is the dilatation of the cardiac cavities so generally met with in heart disease. Now it must be remembered that dilatation occurs under purely physiological conditions. When we speak of the existence of dilatation we mean that the residual quantity of blood in any of the heart cavities at the end of systole is increased above normal. The experiments carried out by Roy and Tigerstedt by plethysmographic methods, as well as those by Hürthle on the duration of outflow during systole, have proved that under no circumstances are the ventricles completely emptied by their contraction, and the experiments by the two investigators first mentioned have shown that the residual quantity of blood is a varying factor depending, (1) on the resistance to be overcome in the arteries, and (2) on the diastolic filling of the ventricles. The curves given by Roy and Adami indicate a constant increase in the systolic volume of the heart whenever there is a rise of arterial pressure or whenever, by pressure on the abdomen or injection of normal saline or defibrinated blood into the circulation, a rise of venous pressure is produced, with increased diastolic inflow into the ventricles.

It must not be thought, however, that this physiological dilatation is necessarily a beginning or sign of heart failure. I have already pointed out that, although the work performed by a loaded skeletal muscle during its maximal contraction is greater than that performed by an unloaded muscle, yet the amount of contraction—i.e., the height to which a lever is raised—is less in the former than in the latter case. The same thing holds good for heart muscle. If, for instance, we assume, in order to simplify the problem, that the left ventricle is spherical it is evident, as Roy pointed out, that a certain amount of dilatation will increase the efficiency of the contractions of the muscle fibres. For, whereas the length of the muscle-cells will vary directly as the radius or circumference, the tension on them will vary as the square of the radius and the amount of blood contained in their cavity as the cube of the radius. Hence as the heart becomes more dilated, although the tension on the individual muscle-cells is greater, yet a very much smaller contraction or shortening of the muscle-cells suffices to drive out the normal amount of blood than is the case in the undilated condition. In fact, here, as in skeletal muscle, with increased load, we have stretching of the muscle fibres (dilatation), diminished shortening or height of contraction, and increased amount of work done. It is evident, too, that if the abnormal strain on the heart walls is permanent the length of the muscle cells will also become permanently altered, just as—to choose the reverse example—the skeletal muscles become permanently shorter in this relaxed condition when there is a lasting impediment to their extension. It is probable that this permanent change in length is conditioned by the connective tissue framework of the muscle, whether in the heart or limbs.

We are now in a position to examine in detail the sequence of events in the two examples of lesions of the cardiac orifices which we selected at the beginning of this lecture. Supposing, for instance, that aortic stenosis is suddenly produced, as may be done experimentally, the next following contraction of the ventricles is called upon to meet an increased strain. The greater tension thus thrown upon the fibres excites them to more powerful contraction; the augmentation in the contractile power is not, however, sufficient to make up for the increased extension of the muscle fibres, so that at the end of systole there is a certain amount of physiological dilatation, the residual blood is greater than before, and the output during the systole has therefore been below normal. This diminished output is not, however, a lasting effect, for during the next diastole the normal amount of blood flows into the ventricle, so that at the beginning of the next systole the heart is overfull. This increased diastolic distension exercises a strong augmenting effect on the ventricular contraction, so that not only the power but also the extent of the contraction is increased above normal, and this increase might be sufficient to empty the ventricle to its usual degree even against the higher resistance offered by the stenosis. This would leave the heart in the same condition as it was after the application of the ligature round the aorta, so that we should have an alternation of weaker and stronger beats. As a matter of fact, on trying the experiment one finds that the increased contraction excited by the abnormal diastolic distension does not diminish the volume of the heart to its normal systolic amount, but is only sufficient to expel the ordinary quantity of blood into the aorta—i.e., that quantity which it has received in the previous diastole. This, however, is sufficient to secure complete compensation of the lesion; the arterial pressure remains at its normal height through the performance of an increased amount of work by the ventricular muscle. It is evident that this increased work would speedily result in fatigue and failure of the heart muscle were it not for the physiological regulation, which ordains that increased work performed by a muscle is followed by hypertrophy of the muscle, provided that the increase is not too excessive in amount. The exact cause of this hypertrophy has not yet been fully worked out. We know that greater activity of a muscle is followed by vascular dilatation and more plentiful blood-supply, so that there is a more

abundant transudation of lymph and supply of proteid to the muscle cells. We have evidence that a hypertrophy of any part involving not only increased growth of any individual cells, but also a multiplication of cells, can be brought about by increasing the lymph-supply. Moreover, the katabolic changes which accompany activity of muscle cause a marked rise of osmotic pressure within the muscles, which, therefore, swell up and become turgescent in consequence of imbibition of fluid (lymph) from the surrounding tissue-spaces. Activity, therefore, induces increased supply of nutritive material, especially proteid, to the constituent elements of the active cells, and thus a hypertrophy and multiplication of these cells.

As an example of another kind of lesion we may now take a case in which the mitral valves are incompetent. Here during the systole of the ventricle the blood escapes in both directions into the aorta and through the incompetent mitral orifice into the auricle. The auricle, therefore during the succeeding diastole is abnormally distended, since the blood flowing into it from the veins is added to that which it has already received from the ventricle. The first strain, therefore, falls on the auricular wall, and here, as in the case of the ventricle the increased diastolic tension causes more powerful contraction and a larger output of blood into the ventricle. This latter at the commencement of its next systole is therefore over-distended and contracts more vigorously, having at the same time less resistance to overcome than under normal conditions. Again, there is a partial escape of the blood back into the auricle, and this process goes on until the amount of blood expelled from the ventricle at each stroke is sufficient to send the normal amount into the aorta, in addition to the amount which leaks back into the auricles. If the aortic pressure is maintained at its normal height it is evident that in mitral stenosis the work done by the left ventricle must be increased above its ordinary amount, since a certain fraction of the work is wasted in driving blood back into the auricles. Hence the result of mitral incompetence is, first, increased diastolic dilatation of the left auricle and left ventricle, which later becomes more or less permanent; and, secondly, hypertrophy of the muscular walls of both these cavities.

It seems probable that a mere perforation of the mitral or tricuspid valves in a heart otherwise normal gives rise to very little disturbance of the circulation or in the conditions in the heart itself. Owing to the arrangement of the muscular fibres of the heart there is a strong circular band of fibres round each of the auriculo-ventricular orifices. This ring contracts with the rest of the ventricular muscle, thus acting as a sphincter and practically closing these orifices. It is not until fatigue of the cardiac muscle sets in, or the orifices are held permanently open by development of hard connective tissue around them, that mitral or tricuspid regurgitation can occur to any considerable extent. Unfortunately there is a limit to the adaptive powers of the heart, as of all the other organs of the body. If the strain on the cardiac muscle becomes too great or too prolonged, or the reserve power of the muscle itself is diminished in consequence of malnutrition, we get failure of compensation and the appearance of all those symptoms characteristic of defective working of the heart pump. There is no doubt that cardiac muscle, just like skeletal muscle, is susceptible of fatigue, which, as in the latter, may be caused either by too great a strain on it during its contraction or by too great a stretching or distension between the contractions. If the limit of the reserve power of the heart be once overstepped every contraction of the heart's worse than its predecessor. A vicious circle is established, in which each contraction leaves a greater amount of blood in the heart than before, and the smaller amount flowing into the arteries affects the circulation injuriously, so that the supply of oxygen and fresh nourishment to the heart muscle is diminished. Without a speedy alteration of the circulatory conditions the heart fails within a few minutes, as is the case in asphyxia. As a rule, however, the primary change in the circulation causes reflexly inhibition of the vaso-motor centre and inhibition or functional paralysis of the skeletal muscles, so that a certain amount of relief is necessarily afforded to the over-distended ventricles. A constant recurrence of such condition of overstrain must lead to a steady deterioration of the contractile powers of the heart and the production of the chronic results of the failure of compensation, some of which we shall study in the next two lectures.

The Lettsomian Lectures

ON

DISEASES OF THE NOSE AND THROAT IN RELATION TO GENERAL MEDICINE.

Delivered before the Medical Society of London,

BY F. DE HAVILLAND HALL, M.D., F.R.C.P. LOND.,

PHYSICIAN TO THE WESTMINSTER HOSPITAL, AND JOINT LECTURER ON THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE WESTMINSTER HOSPITAL MEDICAL SCHOOL.

LECTURE II.[1]

Delivered on Feb. 15th, 1897.

MYCOSIS FUNGOIDES.

MR. PRESIDENT AND GENTLEMEN,—On April 10th, 1895, I showed at the Laryngological Society of London a man aged fifty-two years, suffering from mycosis fungoides. In addition to numerous tumours all over the body and limbs, tumours were seen on the posterior and lateral walls of the pharynx and on the left arytenoid cartilage. The patient had complained of more or less sore-throat for eighteen months, but the speech was not affected. This is, I believe, the first case in which the larynx has been recognised as having been attacked by mycosis fungoides.[2]

RHEUMATISM.

Rheumatic affections of the nose have received but little attention. I cannot say that I have seen any cases in which I could assure myself that rheumatism was the cause of symptoms referred to the nose, with the possible exception of a few cases in which patients complained of pain at the point of emergence of the nasal branches of the superior maxillary nerve, and even in these cases the rheumatic origin of the neuritis is problematical. Freudenthal,[3] however, states that "a number of cases have come under his observation in which the symptoms of nasal rheumatism were distinct and unmistakeable. Two varieties of the disease were noted—one with visible changes in the nose and the other without such changes. The changes consisted of a swelling of the lower and middle turbinated bodies, which obstructed the breathing, and which could not be reduced with even strong solutions of cocaine. In all the cases the pain in the nose was very severe, and all were associated with attacks of articular rheumatism affecting various joints in the body. In all of the cases, too, anti-rheumatic treatment was the only one which had any effect on the nasal symptoms." The epistaxis which we occasionally see during the course of acute rheumatism is almost invariably due to the salicylate of sodium now so generally employed—at all events I can find no reference to epistaxis among the symptoms of acute rheumatism in the pre-salicylate days. One of the first to draw attention to this action of the salicylates was Dr Greenhow,[4] who, in May, 1880, read a paper before the Clinical Society upon cases of Rheumatic Fever treated by the then comparatively new drug. "Epistaxis occurred in seven cases—in some of them repeatedly—and in more than one of them after ceasing when the medicine was intermitted it returned again when it was resumed." Dr. L. Shaw[5] has also called attention to the occurrence of hæmorrhages, particularly of epistaxis, in patients undergoing salicylic treatment. That the salicyl element is the one at fault is shown by the fact that hæmorrhages occur with salicine as well as the salicylates. Dr. Greenhow's experience of epistaxis in acute rheumatism treated by salicylate seems to have been somewhat unusual, as it occurred seven times out of fifty cases. Possibly the lessened frequency of its occurrence at the present time is due to the greater purity

[1] Lecture I. appeared in THE LANCET of Feb. 6th. Lecture III. will be delivered on March 1st.

[2] Proceedings of the Laryngological Society of London, vol. ii., p. 73; and Transactions of the Clinical Society, vol. xxviii., p. 268.

[3] Journal of Laryngology, 1895, p. 179.

[4] Transactions of the Clinical Society, vol. xiii., pp. 262, 343.

[5] Guy's Hospital Reports, vol. xliv., p. 125.

of the drug now used. Epistaxis occurring under these circumstances requires no special treatment, and omission of the medicine is usually followed by cessation of the hæmorrhage. In the naso-pharynx the only condition which seems at all dependent on rheumatism is lacunar inflammation of the third or pharyngeal tonsil. I have seen several cases where this tonsil has been affected independently of the faucial tonsils, and the pain and suffering the patient has experienced have been greater than is usual in ordinary tonsillitis. I believe that in some of the cases the rheumatic poison is the cause of the complaint. In two cases it was clearly of influenzal origin. Before the days of rhinoscopy I should have been at a loss to explain the cause of the severe headache, pain referred to the back of the nose, and fever met with in these cases, but a glance in the rhinoscopic mirror shows irregular swelling of the tonsil, which is dotted over with yellowish spots.

Pharyngitis is a very common complication of acute rheumatism. It usually appears a day or two before the onset of the articular pain, but occasionally the throat is only complained of after the disease has fully declared itself. On examination the margin of the soft palate, the tonsils, and the posterior wall of the pharynx will be found of a deeper red colour than normal and somewhat swollen. Occasionally there is œdema of the mucous membrane, more especially of the uvula. Freudenthal[6] describes a benign ulceration of the pharynx which he has only met with in persons affected with chronic rheumatism and which promptly disappears under anti-rheumatic remedies. This I have not seen. In some cases the symptoms of rheumatic pharyngitis are so slight as not to be mentioned by the patient unless questioned on the subject. In the more severe forms the usual symptoms of dysphagia, pain in the ears and difficulty in speaking, are met with. The rheumatic origin of tonsillitis in many cases is now fully recognised. Lacunar tonsillitis is the form which usually occurs in connexion with rheumatism. It must be borne in mind that though cardiac lesions are seldom seen when sore-throat is the chief feature of a rheumatic attack, still, cases do occur in which endocarditis and pericarditis are met with, even when articular pains are entirely absent. In the discussion on tonsillitis at the meeting of the British Medical Association in 1889 I described a typical example of this.[7]

According to Sir Willoughby Wade[8] "tonsillitis is a primary infective disease of the lacunæ, rheumatic fever a secondary disease arising from the absorption of microbes or their products into the system." He adduces facts which point strongly to the conclusion that there is a special rheumatic bacillus, and further that this special bacillus may or may not be associated with those of tonsillitis. Suchannek[9] regards acute multiple articular rheumatism as an infectious disease which runs the course of an attenuated pyæmia. The infection starts in a large number of cases in Waldeyer's "pharyngeal ring," especially in the faucial tonsils. In the sore-throat different kinds of bacteria are found, especially staphylococci alone, or combined with streptococci. Their colonies penetrate from the mucous membrane into the deeper structures, fill up the lymph spaces, and pass into the circulation through erosions of the lymphatics and bloodvessels as a result of tissue necrosis. The occurrence of thrombosis is the cause of emboli and metastasis. If the micro-organisms are present in small numbers the tonsils may alone be affected; if, however, they are abundant and there exists a predisposition to joint affections, either inherited or of neurotic origin, then the symptoms of acute articular rheumatism may develop. The outcome of the connexion between the throat and the onset of rheumatic phenomena is the importance of preventing oral respiration and the removal of chronically hypertrophied tonsils. If tonsillitis occur it should be promptly treated with salicylates in the hope of thereby warding off an attack of acute rheumatism.

In some cases the rheumatic poison affects the muscles of the pharynx, giving rise to attacks of pain in the pharynx, much aggravated by swallowing; there may be no objective signs. The rheumatic origin of these symptoms is shown by their occurring in patients with rheumatic antecedents and by their yielding to salicylates. From its exposed condition, both externally and internally, and from the amount of fibrous tissue which enters into its structure, it might have been thought that the larynx would be especially subject to rheumatic affections. This, however, does not seem to be the case, and it is only comparatively recently that attention has been directed to the occurrence of a rheumatic laryngitis. Morell Mackenzie, for instance, whose text-book represents the high water-mark of knowledge of throat diseases extant at the time, though he mentions "rheumatic sore-throat," says nothing about rheumatic affections of the larynx, except the remark that it is probable that ankylosis of the crico-arytenoid joint may be due to primary synovitis, either rheumatic, gouty, or simply catarrhal. I have no doubt in my own mind, however, that in the past many cases of the kind have been misinterpreted; indeed, on looking back through my case book I have found cases which I should now class among rheumatic affections of the larynx, but which formerly I did not recognise as such. For instance, I have noticed in patients subject to other rheumatic manifestations swelling of one or both ary-epiglottic folds accompanied with considerable pain in swallowing and some external tenderness, which have speedily yielded to an anti-rheumatic treatment. If the case proceeds a little further the crico-arytenoid joint becomes involved and we get a condition of affairs such as Hirsch has described in a case I shall mention later. The form of sore-throat described by Hinkel[10] is clearly an allied condition. The patient complains of sudden pain on swallowing and there is slight elevation of temperature. The most painful spot is seated just behind the cricoid cartilage, or outside the superior cornu of the thyroid, or in the posterior wall of the pharynx. The mucous membrane is congested in a patchy way. In some cases a severe cough of a dry and painful character is met with. Freudenthal[11] takes even a wider view of the case and says that in predisposed persons the rheumatic laryngitis may be for weeks or months the only symptom of rheumatism, and it is probably for this reason that the correct diagnosis is not made.

There is one class of affection of the throat in which, though the evidence of connexion with rheumatism is somewhat weak, I nevertheless think that rheumatism plays an important *rôle*—I refer to cases of fixation of a vocal cord from ankylosis of the crico-arytenoid joint. In my book on "Diseases of the Nose and Throat"[12] I recorded two cases which came under my observation. It would perhaps be more correct to place these in the class of arthritis *a frigore*, but the line of demarkation between an arthritis arising from exposure to cold and that due to rheumatism is a very narrow one. In the first case the patient was a music-hall singer who, while staying at the seaside, went out rowing late at night and commenced singing. Next morning he had pain in the right side of the throat, with the loss of voice. When I saw him two or three weeks later the right vocal cord was in the cadaveric position and there was swelling at the base of the arytenoid cartilage. The second case occurred in the person of a medical man aged about forty years, who, while recently convalescent from influenza, went out for a ride on a windy day and had to raise his voice to make himself heard. On his return home he was hoarse and had all the symptoms of an acute laryngitis. I saw him some months after the onset; the right arytenoid was somewhat swollen and the vocal cord was fixed in the cadaveric position. As Freudenthal points out, if articular rheumatism of the larynx is associated with rheumatic affections of other parts of the body the diagnosis is easy; but if, as in the cases recorded above, the larynx alone is affected, it is extremely difficult to say positively that the affection is really of rheumatic origin. In rheumatism of the crico-arytenoid joint the patient complains of an uncomfortable sensation at the angle of the jaw, usually relieved by pressure, which frequently elicits crepitus, and the pain is increased by swallowing. Swelling round about the joint may or may not be present. Swallowing is generally easy at first, but dysphagia comes on later. The cord usually becomes fixed in the cadaveric position. Dr. A. E. Garrod[13] quotes three cases. The first is one related by Schützenberger. The patient, a young woman, died in the course of an attack of rheumatic fever from pericarditis and œdema of the lungs, and the left crico-arytenoid joint was found to contain an excess of fluid. The two other cases are recorded by Hirsch, whose first patient was a young man, aged twenty years, who during an attack of acute rheumatism complained of pain on the right side

[6] Journal of Laryngology, 1895, p. 179.
[7] Brit. Med. Jour., 1889, vol. ii., p. 588.
[8] Ibid., 1896, vol. i., p. 829.
[9] Centralblatt für Laryngologie, vol. xii., p. 160
[10] Ibid., vol. vi., p. 149.
[11] Journal of Laryngology, 1896, p. 179.
[12] P. 361.
[13] A Treatise on Rheumatism, p. 82.

of the larynx, which was increased by deglutition: the voice was hoarse. On laryngoscopic examination much redness and swelling over the right arytenoid cartilage, extending to the ary-epiglottic fold, was seen. The movements of the right cord were impaired. Within a week the laryngeal signs and symptoms had quite disappeared. In Hirsch's second case the symptoms and laryngoscopic appearances were very similar, but both sides of the larynx were involved. Archambault [14] in his Thesis quotes a case under Dasbrousses' care. A patient who had had several local manifestations of rheumatism was attacked on the fourth day with dyspnœa and loss of voice. Nothing was seen at the back of the mouth or pharynx. The patient died, and at the necropsy, the arytenoid cartilages on both sides were found bare, but not necrosed. In the left articulation a reddish serous effusion was seen. A case recorded by Sendziak [15] is a typical example of this condition. The crico-arytenoid articulations were first affected, causing pain, dysphagia, aphonia, high fever, and prostration, followed by affections of the larger joints. I believe that many of the cases of fixation of a vocal cord of doubtful origin—and every laryngologist has met with these cases—are probably due to rheumatic arthritis, and that though the prognosis as regards life is good the voice will always be somewhat impaired; but even in this respect it is sometimes astonishing how good and strong a voice can be produced in spite of the fixation of one vocal cord, owing to the fact that the unaffected cord takes on compensatory action, crosses the middle line, and comes into almost complete contact with the motionless cord. Dr. E. F. Ingals [16] of Chicago believes that laryngeal rheumatism is often mistaken for neuralgia. He finds it occur most frequently in men and most commonly during spring and autumn. Nearly all subjects are of the rheumatic diathesis, the pains come and go in the manner characteristic of rheumatic affections, and they are benefited only by those remedies and surroundings which have proved most useful in rheumatism. A case recorded by Dr. Max Thorner [17] under the head of "Chronic Rheumatic Laryngitis and Pharyngitis" corresponds to the description given by Ingals, and I have had somewhat similar experience; the rheumatic origin of these cases is, however, rather doubtful. Before leaving the subject of rheumatic laryngitis I should like to add that cases of affection of the crico-arytenoid joint from gonorrhœal rheumatism have been recorded. Even if there were no cases reported we might reasonably expect that they had occurred, but had been overlooked, as we know that gonorrhœal rheumatism may affect any joint. Mr. Broadhurst [18] has recorded a case in which there was ankylosis of every joint in succession, and it would therefore be very curious if the crico-arytenoid joint alone escaped. Dr. Lacoarret, [19] in his very interesting paper on Acute Arthritis of the Crico-arytenoid Joint, gives two cases which deserve to be quoted in full.

CASE 1. *Reported by Libermann.*—"X——, twenty-six years of age, a soldier, who had only had some trivial maladies, was, in the course of 1872, attacked with some rheumatic pains. On April 28th, 1873, he contracted gonorrhœa; on May 15th sudden suppression of the discharge; immediately afterwards pains in joints of the shoulder and knee without articular swelling. At the end of three or four days violent pain in the laryngeal region accompanied by complete aphonia. The articular pains have ceased since the appearance of the aphonia. Violent pains in the left laryngeal region coming on spontaneously as well as on pressure. On laryngoscopical examination a considerable swelling of the left arytenoid cartilage is seen, especially at the articular part, which exhibits quite a considerable globular enlargement, over which on passing a laryngeal sound the sensation of fluctuation is clearly enough perceived. The mucous membrane covering the arytenoid is red, but the redness does not pass beyond the cartilage; the adjacent parts are quite healthy. The left vocal cord is narrower than its fellow and does not approach the middle line. When the patient pronounces the vowel 'a' it remains immobile. Examination of the chest does not reveal any pulmonary lesion. He has never had a syphilitic affection. In the presence of these lesions, and on account of the order of succession of the symptoms, I believe that I can diagnose a gonorrhœal arthritis of the crico-arytenoid articulation. Blisters over the laryngeal region, iodised opium painting over the articulation. After some days the pains disappeared, the voice returned little by little, and the patient left cured on June 30th. The laryngoscopic examination made at this time gives the following result: the left arytenoid cartilage and the crico-arytenoid articulation have returned to their normal state, but the left cord has not completely regained its size (slight atrophy of the cord) and it does not quite approach its fellow; the voice is nearly normal."

CASE 2. *Reported by Mr. K. Simpson.*—"S. H., a bachelor, consulted me for the first time on Feb. 23rd, 1838. He had had three attacks of gonorrhœa; the last occurred five weeks before. He has complained of pain and stiffness in the left knee for the last three weeks; similar phenomena showed themselves in the right knee, then in the left hip. The left thumb became equally painful and tumefied; the swelling extended over the anterior part of the wrist and over the back of the hand, and at this time these regions presented the typical appearance of an acute rheumatic inflammation. The throat symptoms had commenced three days before in the morning, with pain on deglutition. The day following there was a little swelling over the lower part of the larynx externally; this swelling had now nearly disappeared. Pain on pressure over the right side of the larynx. In the evening the patient commenced to be hoarse and the pain on pressure became very violent. Dysphagia, then complete aphonia; no cough. The two arytenoids were red and tumefied, the right rather less than the left; appearance of tuberculous laryngitis. The right cord was immobile during phonation. The remainder of the laryngeal mucous membrane was hyperæmic; the left cord a little injected, the right swollen and red. The treatment consisted in the internal administration of salicylate of sodium. From Feb. 23rd to the 28th there was no amelioration in the throat symptoms, the swelling had increased, and the respiration remained embarrassed. Starting from the 28th and after the application of a blister over the right side of the larynx, and after the administration of iodide of potassium, a notable amelioration took place. Improvement continued, and on March 6th the œdema had completely disappeared. The voice had returned fairly well, but the right crico-arytenoid articulation and the vocal cord remained red and only executed feeble movements."

Of these two patients the first case (that reported by Libermann) was certainly a rheumatic subject, and the second (Mr. Simpson's case) presented other articular lesions. The arthritic diathesis of the one, and the multiple attacks in the two cases, do not allow us to affirm that we had to deal with infectious, and not with true and rheumatic, pains coinciding with the gonorrhœa. At the most, the failure of the salicylate treatment in the second patient would suggest that we had before us a real gonorrhœal arthritis.

In connexion with impairment of movement of vocal cords comes the question of rheumatism of the laryngeal muscles. I am not myself a believer in the rheumatic origin of muscular affections generally. I am of opinion that they are more often due to a gouty tendency. I cannot, therefore, give in my adhesion to the view that the muscles of the larynx may be affected with rheumatism and give rise to impaired movement of the vocal cord, and I agree with Dr. Semon when he says that "I believe the less in rheumatic paralysis the greater my experience becomes." Larauza, [20] however, records a case of hyperæmia of the laryngeal mucous membrane with loss of tension in the vocal cords with aphonia in a patient, the son of arthritic parents, but who had not suffered himself from articular rheumatism. On the very insufficient ground of a rheumatic family history and the speedy improvement under the administration of sodium salicylate after other methods had failed, Larauza diagnosed rheumatism of the intrinsic muscles of the larynx. I have not seen any cases which could not be explained on other than a rheumatic theory.

GOUT.

I have but little to say in reference to gouty conditions of the nose. Tophi are sometimes found in the skin of the nose. At the time of writing this I have a patient in the Westminster Hospital with a large tophus in the skin of the

[14] Inaugural Thesis. Paris, 1886.
[15] Journal of Laryngology, vol. x., p. 347.
[16] Sajous's Annual of the Universal Medical Sciences, 1889, vol. iv., 64.
[17] Cincinnati Medical Journal, March, 1895.
[18] Reynolds's System of Medicine, vol. i., p. 861.
[19] Revue de Laryngologie, d'Otologie, et de Rhinologie, 1891, p. 397.
[20] Ibid., 1889, p. 203.

nose. Sir Dyce Duckworth[21] states that "Painful follicular inflammations in the alæ of the nose have been noted with some frequency in the gouty. These do not suppurate, but are apt to recur again and again." If epistaxis occurs it is usually as a result of changes associated with chronic interstitial nephritis (the gouty kidney) rather than directly due to any gouty condition. In a letter to me on the subject Sir Dyce Duckworth confirms an opinion which I have long held, that "some nasal catarrhs are gouty, sudden, and sometimes fugitive." There is much to be said in favour of the view that in some cases of hay fever there is an underlying gouty tendency or, as Haig would say, a condition of uricacidæmia. I have not, however, found hay fever alternating with, or replacing an attack of, gout. Sir Dyce Duckworth quotes Noël Gueneau de Mussy as being of opinion that cases of hay fever were especially frequent in members of gouty families and, as regarding the changes in the mucous membrane of the nasal passages, as akin to the eruptions which vex the skin of gouty subjects. I have found that a simple unstimulating diet, only a moderate amount of animal food, and no alcohol, suit the victims of hay fever the best. Whilst on the subject of hay fever and paroxysmal sneezing in the gouty, I will take the opportunity of emphasising the importance of a thorough investigation of the patient's general condition before any local treatment is carried out in the nose for these affections. A careful inquiry should be made as to the state of the various functions of the body, especial attention being directed to the condition of the liver and kidneys; the possibility of malarial infection should also be considered. Having done this I would go a step further and if, in spite of general treatment, the sneezing or attacks of hay fever persist I would most certainly carry out local treatment in the nose. Of the methods of local treatment I have found none so efficacious as the use of the galvano-cautery. Given a puffy, spongy condition of the mucous membrane of the turbinated bones, with more or less occlusion of the passages, the application of the galvano-cautery has in my experience been followed by great benefit; it involves little or no risk of any sort and, thanks to cocaine, can be carried out in a perfectly painless manner. Only in exceptional cases is a more severe local treatment necessary, but should there be deflection of the septum partially blocking one nostril it may be necessary to forcibly straighten it and thus restore free nasal respiration. Removal of the turbinated bones is hardly ever justifiable. I have entered somewhat fully into this question of local surgical treatment of nasal neuroses as Dr. Goodhart[22] has, in my opinion, taken up too strong a position when he says "we should remember, in making use of severe measures of this kind, that we are only treating a symptom and, from the nature of the case, adopting a means that is very unlikely to prove of any permanent good." While agreeing with him that "means of this kind are too often meddlesome and bad surgery," I have had so many patients under my care who have derived permanent benefit from the galvano-caustic plan of treatment that I feel it my duty to protest against indiscriminate blame being attached to it, as well as against its unjustifiable abuse. In this, as in most worldly matters, *In medio tutissimus ibis* is the motto to follow.

Though gouty affections of the nose are comparatively rare, the pharynx is frequently the seat of trouble in the gouty—chiefly of a chronic nature, anything like acute gout of the throat being excessively rare. Morell Mackenzie[23] mentions the case of a patient who was "suffering from acute pharyngitis, when the symptoms suddenly disappeared and an acute attack of gout developed in the great toe of the right foot; after three days the gouty inflammation of the toe disappeared and acute hyperæmia of the pharynx supervened." He also mentions a case of acute œdema of the uvula disappearing upon sudden development of gouty inflammation of the big toe.[24] M. Vaton[25] was called to a patient suffering from an urgent attack of dyspnœa with enormous œdematous swelling of the uvula, soft palate and fauces. The patient was the subject of gravel with articular deformities and tophi, and had had gouty attacks previously. The diagnosis of gouty angina was accordingly made and the patient was ordered gargles of chlorate of potassium, sinapisms, and a free supply of Vichy water. As suffocation threatened the uvula was scarified and leeches were applied to it. The swelling suddenly disappeared some days after, simultaneously with the big toe being attacked with severe gout. I have not myself seen anything similar to the above—i.e., acute mischief in the throat being replaced by acute gout, and this in its turn giving way to a return of the throat mischief, on the other hand I have had a good number of gouty patients who have had marked throat symptoms, which seemed to me to be dependent on their general gouty condition. The appearance of the gouty throat is characteristic, the soft palate, the fauces and the posterior wall of the pharynx present a gorged, congested appearance, the uvula is generally enlarged, and sometimes of an enormous size. The colour of the mucous membrane is purplish-red and has a somewhat glistening appearance. As regards symptoms, patients complain of all degrees of discomfort, from slight difficulty and pain in swallowing to sharp pain radiating up to the ear, with excessive pain on swallowing. In some cases the patients complain of pain limited to certain areas, or they have the sensation of tickling or of a foreign body in the throat. These symptoms are especially met with in the lithæmic; i.e., in people with defective liver action but who have not as yet shown any overt manifestations of gout.

I am of opinion that quinsy is sometimes a manifestation of the gouty diathesis and occurs in the children of gouty parents more frequently than in others. In the past the diagnosis of gout has undoubtedly been the refuge of the destitute, and I do not think that we are justified in describing an affection of the throat as being gouty, unless the sufferer has had some other distinct evidence of gout. The gouty nature of the complaint is still further assured if it quickly yields to colchicum and alkalies when other remedies have failed. In connexion with gouty pharyngitis it is not uncommon to find the larynx also affected. The cords are congested and the mucous membrane of the larynx has sometimes a dusky colouration. The patient complains of pain through the larynx, and there may be some external tenderness. There is usually hoarseness, with a frequent hacking cough, and a little viscid expectoration, sometimes streaked with blood, is brought up with difficulty. Sir Thomas Watson, in his classical lectures, writes: "A year or two ago an eminent physician of my acquaintance suffered a violent and dangerous attack of what was considered to be gout in the throat." It is extremely difficult to recognise what was included under the term of "gout in the throat" in the pre-laryngoscopic days, but it is quite certain that nowadays we do not see gout attacking the larynx and threatening life. The only two cases of a definite gouty affection of the larynx which Morell Mackenzie[26] records are (1) gouty deposit around the crico-arytenoid joints on both sides, causing permanent dysphonia, deposit in lobule of left ear; (2) gouty inflammation, producing fungous ulceration of the left ventricular band resembling cancer, cured by a course at Wiesbaden. Sir Alfred Garrod[27] writes: "In one instance only have I seen what appeared to me to be a true gouty disease of the larynx." Inasmuch, however, as no laryngoscopic or post-mortem examination was made the case is not conclusive. In my experience gout as it affects the larynx has been in the form of catarrh, more or less chronic, but yielding to alkalies and iodide of potassium. Careful pathological investigation bears out the comparative rarity of gouty changes in the larynx. Dr. Norman Moore[28] has noted the post-mortem appearances in eighty cases of gout and, as one of his conclusions, states that "the articulations of the larynx rarely contain deposit"—i.e., of urate of sodium. On analysing these eighty cases it will be found that in fifty-seven cases the larynx was normal (except one case where there was tuberculous ulceration), in sixteen cases the condition of the larynx is not distinctly indicated, and in only seven were there any noteworthy changes. In four calcification of the cartilages is mentioned as being present, and in three others gritty deposits, small thickening of white colour, and œdema of the larynx, respectively, were noted. In no case was urate of sodium noted as being present. In the report of a case in the Pathological Society's Transactions Dr. Moore,[29] however, mentions the occurrence of a small deposit looking like urate of soda just below the outer end of each cord. In one case Sir Alfred Garrod[30] met with some points of deposit on the arytenoid cartilages, which

[21] A Treatise on Gout, p. 90.
[22] Harveian Lectures on Common Neuroses, p. 43.
[23] Diseases of the Throat and Nose, vol. i., p. 43.
[24] Journal of Laryngology, vol. iii., p. 313.
[25] Revue de Laryngologie, 1891, p. 143.
[26] Journal of Laryngology, vol. iii., p. 313.
[27] A Treatise on Gout and Rheumatic Gout, third edition, p. 402.
[28] St. Bartholomew's Hospital Reports, vol. xxiii., p. 289.
[29] Transactions of the Pathological Society, vol. xxxiii., p. 275.
[30] Op. cit., p. 205.

were proved to consist of urate of soda both from their microscopical and chemical characters, and Duckworth[31] states that Virchow has detected "a tophulus" in the posterior part of the right vocal cord. Uratic deposits have been found in the crico-arytenoid ligaments. Ewart[32] quotes cases observed by Litten and Brooks of uratic deposits in the larynx.

OSTEO-ARTHRITIS: RHEUMATOID ARTHRITIS.

Osteo-arthritis affecting the crico-arytenoid joint has up to the present time received but scant attention. Sir Alfred Garrod[33] is inclined to attribute the aphonia, which he has observed in several cases, to implication of the arytenoid cartilages in the disease, but this view has not been confirmed by laryngoscopic or post-mortem observations. Bearing in mind now generalised the joint lesions of this disease are I cannot but think that cases in which the crico-arytenoid joint is implicated occur fairly frequently but pass unrecognised, for I can see no reason why this joint should be exempt from the ravages of osteo-arthritis, more especially as a neighbouring joint—the temporo-maxillary articulation—is often attacked. Now that the laryngoscope is so commonly employed we may expect to hear of osteo-arthritic affections of the crico-arytenoid joint.

Dr. W. E. Casselberry[34] of Chicago has recorded the case of a woman, fifty-eight years of age, who suffered from laryngeal dyspnœa, marked inspiratory stridor, and a slight degree of laryngitis. The vocal cords could not be abducted on account of ankylosis of the arytenoid joints; the patient suffered from general rheumatoid arthritis of the joints of the hand and foot as well as of the larger joints of the body. The attacks of laryngeal dyspnœa always terminated spontaneously, and they corresponded in point of time to the exacerbations of the constitutional affection. During the attack itself local treatment was necessary in order to keep the larynx free from secretion; without this it would hardly have been possible to avoid tracheotomy. Treatment directed against rheumatism and against gout was carried out for a long time without result. It would seem, therefore, that in this case we had to do with osteo-arthritis of the crico-arytenoid joint.

LEUKÆMIA.

Several cases of laryngeal stenosis due to leukæmia have been reported.[35] In a case under Ebstein's care the arytenoids and ventricular bands were infiltrated. Three months after the first observation the swelling had increased and had extended to the supra-glottic region, the surface being covered with a yellowish secretion. Owing to an increase in the amount of stenosis tracheotomy was required. Death occurred five days later. In another case the laryngoscopic appearance was that of a tuberculous infiltration, and the stenosis was chiefly due to swelling of the sub-cordal mucous membrane extending posteriorly to the sixth tracheal ring. Mager records the case of a patient, fifty-eight years of age, who, after having suffered from leukæmia for a year, became dyspnœic. On laryngoscopic examination the mucous membrane of the larynx was red and swollen; the swelling appeared to be due to a hard infiltration, the vocal cords were swollen, and there was immobility of the right half of the larynx. Death followed tracheotomy in a few days. In this case at the post-mortem examination, in addition to the usual sub-epithelial infiltration by leucocytes, there was peri-chondritis and necrosis of the right arytenoid cartilage. Leukæmic infiltration of the larynx represents a grave complication; it usually requires tracheotomy and is a precursor of the fatal issue.

HODGKIN'S DISEASE.

In Hodgkin's disease running an acute course œdema of the pharynx especially of the arches of the palate and the uvula, coming on in successive attacks has been observed.[36] The swelling is probably due to leukæmic infiltration and the administration of arsenic has good effect. In a chronic case of Hodgkin's disease an œdematous granular appearance of the uvula and the anterior palatine arch, which felt hard, was noticed. A similar condition has been seen in the larynx. A child, two years old, had attacks of suffocation and died, notwithstanding the performance of tracheotomy. At the post-mortem examination there existed a general swelling of the lymphatic system, with especial localisation in the ventricular bands and the epiglottis. The swelling of the laryngeal mucous membrane was pale and slightly knobby, caused by accumulation of leucocytes in the sub-epithelial tissues.[37]

LYMPHATIC SYSTEM.

Owing to the universality of its distribution the lymphatic system necessarily plays an important part in all diseased processes. As Moritz Schmidt has pointed out, in a considerable number of cases of recurrent postícus paralysis the cause is quite obscure during life. A likely hypothesis in these cases is that the paralysis has been produced by a swollen mediastinal or cervical gland. I have had the opportunity of watching such a case for the last ten years and though I had always assumed, in the absence of any other recognisable condition, that the paralysis was due to the pressure of enlarged mediastinal glands, it is only within the last few months that the cervical glands have become enlarged and lent support to my original diagnosis.

HÆMOPTYSIS.

There is hardly any symptom which gives rise to more anxiety both to the patient and his medical attendant than hæmoptysis. The rule still holds good that blood which is coughed up should be regarded as coming from the lungs, until there is distinct evidence to the contrary. A simple explanation of some cases of blood-spitting occurring in the early morning is forthcoming—viz., that it may be due to decayed teeth. Patients suck their gums and if the gums are inflamed the blood drawn from them during sleep passes into the throat to be coughed up on waking. Numerous cases are now on record in which a varicose ulcer on the posterior border of the septum, small ulcers and vascular ruptures in hypertrophied tonsils, enlarged vessels in the pharynx, a varicose condition of the veins at the base of the tongue, dilated vessels, or ulceration of the larynx, have given rise to the suspicion of hæmoptysis, and the diagnosis has only been arrived at by the employment of the rhinoscope or the laryngoscope as the case may be. I could not wish to cite a better illustration of the use of these instruments in general medicine. Among the comparatively rare causes of hæmoptysis may be mentioned the presence of a leech in the larynx.[38] A dry laryngitis, in which crusts form on the vocal cords, may give rise to quite a severe hæmorrhage when they become detached, and this, together with the concomitant cough and hoarseness, may, in the absence of a thorough examination, lead to an erroneous diagnosis of phthisis. I have had under observation during the past year a middle-aged lady with the physical signs of a small quiescent cavity in the apex of the right lung, who came to me with the history of having spat blood daily for over a year. There was no rise of temperature and the patient had gained in weight. Examination of the sputa on two occasions showed the absence of tubercle bacilli. I thought that I had discovered the source of the hæmoptysis when I detected bleeding from a vascular point on the septum. The epistaxis I readily stopped by applying the galvano-cautery to the bleeding point, but, alas, the hæmoptysis continued and, though I carefully examined the pharynx and larynx, I failed to find the origin of the hæmorrhage. I am confident, however, that it came from the upper air passages and not from the lungs.

BRONCHITIS.

The intimate connexion between the nasal passages and the bronchial tubes has for a long time been common property. There are certain persons who say that whenever they get a cold in the head it is sure to travel downwards and set up bronchitis. This tendency is, however, much greater in those who suffer from stenosis of the nasal passages interfering with proper nasal respiration. This is one argument I employ when I think it necessary to advise that hypertrophic rhinitis, crests on the septum, and deflected septa should be surgically treated. I point out that, though in early adult life the nasal condition may only be an inconvenience, still with advancing years and the tendency to bronchial affections which comes with increasing age, any interference with free nasal breathing greatly aggravates the risk of being attacked by bronchitis. Oral respiration is always attended sooner or later by chronic pharyngitis and laryngitis, and a little additional upset of the system will start bronchitis, which under these circumstances is

[31] A Treatise on Gout, p. 85.
[32] Gout and Gouttiness, p. 268.
[33] Gout and Rheumatic Gout, third edition, p. 519.
[34] Centralblatt für Laryngologie, vol. xi., p. 266.
Journal of Laryngology, vol. xi., pp. 233, 237, 272.
Centralblatt für Laryngologie, vol. xii., p. 559.

[37] Ibid., p. 499.
[38] Revue de Laryngologie, 1890, p. 81.

extremely likely to become chronic. Even slight nasal affections, not sufficient to interfere with breathing, may be a predisposing cause to bronchitis. Thus Cahn[39] records a case of bronchitis coming on in an acute manner in a patient with small nasal polypi, and the bronchitis lasted until they were cleared out. Cahn especially notes that there was free nasal breathing.

ASTHMA.

One of the earliest reflex conditions which was recognised as being dependent in some cases upon intra-nasal disease is asthma, and though I cannot agree with some authorities that asthma is usually associated with intra-nasal diseases, still cases of this sort occur with sufficient frequency to render it absolutely necessary for the physician to examine the nose in all cases of asthma. Numerous cases have now been recorded of asthma occurring in persons suffering from nasal polypi, in which the removal of these growths has completely freed the patient from an attacks of asthma. It has not, however, been my fortune to meet with absolute success—that is to say that in all the cases of asthma complicated with polypi which have come under my care in no single instance have I succeeded in curing the patient by removing the polypi. No matter how thoroughly the nose has been freed from the growths, the patient has still suffered from attacks of asthma, though the effect of the treatment has been greatly to diminish the attacks in frequency and severity. Unfortunately, as a rule, patients do not come for treatment of the nasal disease until the asthma has lasted for a considerable period, possibly years, and by this time changes have been set up in the central nervous system and in the lungs which are incompatible with complete restoration to health. In this connexion the following case is of much interest.

A man, aged thirty-eight years, consulted me in April, 1893, on account of asthma from which he had suffered for about six or seven years. At the commencement of the asthma he had some sneezing. On examining the nose I found a spur on the septum, no polypi and nothing abnormal in the naso-pharynx. The chest was emphysematous. I ordered him iodide of potassium three times a day and the following mixture to be taken for relief of cough and shortness of breath: one-third of a minim of liquor trinitrini, half a drachm each of oxymel scillæ and tinctura camphoræ composita, twenty minims of spiritus ætheris nitrosi, and water to half an ounce. He came again in two months' time and reported that he had had great relief from the treatment. He now mentioned that he had a clear, watery discharge from the nose at the time of the attack. I applied the galvano-cautery to the right inferior turbinal. I lost sight of the patient until April, 1893, when he again came to see me and said that he had been very well until the last few weeks. On examining the nose I found polypi in both nostrils. I cleared out the nostrils much to his relief in all respects. The particular interest of this case is the connexion of the asthma with nasal trouble. At the commencement of the asthma he had sneezing; the onset of an attack was accompanied by a watery discharge, but it was not until the asthma had existed for at least seven years that polypi developed in the nose. I have seen many cases of asthma complicated with nasal polypi, but this is the only example I have met with in which polypi appeared in a patient already suffering from asthma.

Though polypi represent the intra-nasal lesion most frequently found associated with asthma, any affection of the nose may be the starting point of asthma. Spurs and crests on the septum, deflection of the septum, hypertrophic and atrophic rhinitis have been noted as apparently giving rise to asthma. Adenoids may also cause asthma. A patient of mine, aged twenty-one years, who had suffered from asthma for two years completely lost it after the removal of adenoids. According to Lichtwitz[40] symptoms resembling asthma were seen in five patients as a complication of empyema of the accesory nasal cavities. Believing as I do in the connexion between intra-nasal lesion and the development of asthma, I would strenuously advise that a systematic examination should be made of the nasal fossæ and accessory sinuses, and if any gross lesion is found it should be promptly treated.

EMPHYSEMA.

Emphysema is another lung affection which has intimate relation with diseases of the nose and throat. Any of the various causes of nasal obstruction may, as a result of the chronic pharyngeal and laryngeal catarrh and consequent irritable cough thereby produced, give rise to emphysema. It is probable also that emphysema may be directly due to nasal obstruction; this is borne out by the experiments of Dr. Cervello[41] on dogs. He finds that occlusion of the nostrils invariably produces in a few days pulmonary emphysema in completely healthy dogs. I have seen the progress of a somewhat rapidly increasing emphysema at once checked by the amputation of an elongated uvula, and I have seen equally good results from the treatment of granular pharyngitis by the galvano-cautery. These remarks will, I think, be sufficient to indicate the desirability of looking out for the cause of any chronic cough, and not to be satisfied with simply ordering some cough mixture. Amputation of the uvula is an operation which has been much abused in the past, but there is no reason why on this account it should not be performed in suitable cases. If the uvula is elongated in a patient who is suffering from a chronic cough, with little or no expectoration, and nothing in the chest can be found to account for it, and if the cough is worse at night or on lying down, then the uvula may with advantage be amputated.

PNEUMONIA.

Epistaxis is sometimes observed in pneumonia: it may be an early symptom or occur as one of the critical phenomena. Just as acute rheumatism may follow an attack of tonsillitis, so I believe may pneumonia. Whether the pneumonia is of septic origin or whether the micro-organism (be it the diplococcus of Fraenkel or the pneumococcus of Friedlaender) first sets up inflammatory mischief in the tonsil and then proceeds to affect the lung I must leave to be settled by those skilled in bacteriology. Dr. Wallace of Crick[42] has recorded a case of the kind. The patient, a man thirty-six years of age, had an attack of sore-throat (quinsy) followed by pneumonia. Examination of the sputum showed numerous long chains of streptococci, staphylococci, pneumococci single, double, and in short chains, and zooglœæ of micrococci. In a patient in the Westminster Hospital under my care an attack of acute laryngitis came on during the course of a pneumonia.

SHAPE OF THE CHEST.

The state of the nose and naso-pharynx has a profound influence on the shape of the chest. Any interference with free nasal respiration, whether in the nose or naso-pharynx, in early life will give rise to a characteristic deformity. Adenoid vegetations, as being the most common cause of defective nasal breathing, are usually found to be present. At one time it was thought that enlarged tonsils were the cause of this deformity, but the observations on which this view depended were mostly made in the pre-adenoid days, and as adenoids are almost invariably associated with enlarged tonsils, it is probable that the latter usually play quite a subordinate *rôle* in the production of the deformity in question. That enlarged tonsils alone are capable of causing deformity of the chest is shown by two cases reported by Dr. Norman Moore.[43] He made a cystometrical drawing of the chest in each case before and some time after the removal of the tonsils, and the cup-shaped depression in the chest which was present before the operation was found to have disappeared when the second tracing was made. My colleague, Mr. Tubby,[44] has given an excellent representation of the changes seen in the thorax. "The chest is bulged at its upper and middle part and retracted in its lower part and excavated. The sternum is not so keel-like as in rickets and the lateral vertical grooves are absent. The antero-posterior diameter is increased, while the transverse is diminished." The retraction of the lower part of the chest is due to the contractions of the diaphragm drawing in the chest, which is insufficiently inflated with air owing to the interference with free nasal respiration. If the adenoids or other causes of nasal obstruction are removed before the bones are firmly ossified the deformity may be almost completely cured, and recovery of the shape of the chest is accelerated by the judicious employment of extension and gymnastic exercises. According to Mr. Tubby,[45] during infancy and early childhood the subject of nasal obstruction shows deformity of the chest alone; between the ages of six and ten years kyphosis makes its appearance; and from

[39] Centralblatt für Laryngologie, vol. xii., p. 424.
[40] Journal of Laryngology, vol. xi., p. 161.
[41] Revue de Laryngologie, 1890, p. 773.
[42] THE LANCET, Feb. 15th, 1896, p. 416.
[43] St. Bartholomew's Hospital Reports, vol. xx., p. 129.
[44] Deformities, a Treatise on Orthopædic Surgery, p. 211.
[45] Op. cit., p. 155.

ten to sixteen years of age scoliosis supervenes on the kyphosis.

DISEASES OF THE CIRCULATORY SYSTEM.

As we have already seen in connexion with rheumatism the heart may become affected with valvular disease as the result of a rheumatic tonsillitis, but it is not so generally recognised that an infective endocarditis may have a tonsillar origin. A case reported by Charrin[46] is a good illustration of this connexion. On post-mortem examination staphylococcus aureus, which during life had been found swarming on the exudation over the tonsils, was present in the bronchopneumonic patches and the valvular vegetations. Dr. Dreschfeld,[47] in describing the paths of entrance of the microbes in infective endocarditis, says: "Probably the tonsils, which are so often affected in rheumatic endocarditis, may occasionally serve as the means of entrance, and thus again some of the so-called 'primary cases' may be explained." Löri[48] states that in four out of five cases of acute septic endocarditis, which he has observed, ecchymoses have been present in the pharynx, larynx, or trachea. Loss of substance in the larynx and hæmorrhage from the pharynx, larynx, and trachea have been also met with in acute septic endocarditis. Von Stein[49] of Moscow, as the result of an examination of the symptoms observed in fifty patients suffering from cardiac neuroses, and presenting at the same time an increase more or less pronounced in the size of the inferior turbinals, has ventured to draw the following conclusions. 1. A hyperplasia, more or less marked, occupying in the greater number of the cases exclusively the two inferior turbinals, without points of irritation or hyperæmia, but with complete or intermittent obstruction of the nose, causes a sensation of weight, of constriction, and of angina in the cardiac region. 2. When to this condition is added a transitory vascular injection of the ocular conjunctiva and of the extremity of the nose, an injection which is reproduced by lightly touching the nasal mucous membrane, then there will be palpitation of the heart, often accompanied by sensation of giddiness, of want of air, and of pre-cordial weight. Von Stein has found these symptoms disappear after cauterisation of the mucous membrane.

Tachycardia may be associated with intra-nasal disease. Mr. Spencer Watson[50] has reported a case of nasal polyi in which the pulse-rate was 120 per minute, the tachycardia being persistent. After the nostrils had been completely freed from obstruction the cardiac trouble ceased. In contra-distinction to tachycardia, a slow pulse may be met with in certain nasal affections. Lichtwitz[51] reports the case of a patient with empyema of all the sinuses, who had a pulse of from 28 to 30 to the minute, which became normal after treatment. Tachycardia has been observed to follow excision of the larynx.[52] It has been suggested that is was due to division, in the course of the operation, of an abnormal cardiac branch of the superior laryngeal nerve, with functions similar to those of Cyon's depressor nerve. Dr. Toti, however, relates a case in which the patient developed intense tachycardia (from 160 to 180 beats a minute) *thirty hours* after the operation for total excision of the larynx. He continued in that state for twenty-four hours, and ultimately died from cardiac paralysis. If, however, the tachycardia were in this case the result of the division of the nerve, it ought to have appeared immediately after the operation, instead of being delayed for thirty hours. At present, therefore, no satisfactory explanation of the occurrence of tachycardia in these cases is forthcoming. Besides causing tachycardia, nasal lesions occasionally give rise to irregularity in the action of the heart. Dr. Sansom[53] in a discussion following the reading of his paper entitled "The Irregular Heart: a Clinical Study," read before this society on Dec. 12th, 1892, said: "He thought that nasal and aural troubles were amongst the commonest reflexes which started the cardiac derangement."

EXOPHTHALMIC GOITRE.

In exophthalmic goitre, and, as we have just seen, in the allied condition, tachycardia, intra-nasal changes play an important part. Mr. Arthur Maude,[54] who recently presented his valuable series of monographs on exophthalmic goitre to the library of the Royal College of Surgeons of England, has collected the following cases in which operative interference in the nose has been carried out in cases of Graves's disease. "Hack of Freiburg removed part of the inferior turbinated bones, which were the seat of chronic thickening, in a girl, aged sixteen years, in whom exophthalmos had existed since childhood and palpitation and goitre for many months. The operation was performed with the galvano-cautery, and subsidence of the symptoms followed.[55] Fraenkel[56] also reports the amelioration of symptoms which followed the application of the galvano-cautery to the inferior turbinated bones. The application was made to the two sides at some weeks' interval, and the immediate effect on the goitre was limited to the side treated; after application was made to both sides the thyroid enlargement disappeared and the pulse regained its normal rate. Bobone[57] makes a similar observation. Hopmann,[58] by treating chronic atrophy of the mucous membrane of the nose in a woman the subject of exophthalmic goitre, claims to have cured the palpitation and exophthalmos." A case recorded by Mr. Spencer Watson[59] of a woman, fifty-four years of age, with prominent eyeballs, great mental depression and fainting fits, was probably one of exophthalmic goitre. There was extensive hypertrophy of both inferior turbinals, which were removed with great relief to the symptoms. Dr. Scanes Spicer[60] has recorded a case of incomplete Graves's disease associated with nasal polypi. In this case, although the enlargement of the thyroid gland, the tachycardia, the tremor and nervous excitement were well marked, Dr. Spicer elected to call it incomplete Graves's disease from the subordinate character of one of its leading symptoms—the exophthalmos; the polypi were removed with the cold wire snare, and as the nasal passages gradually became pervious the thyroidal swelling diminished and became less defined, the pulsation less, and the slight exophthalmos and tremors disappeared.

Over against the above cases of exophthalmic goitre successfully treated by intra-nasal operative procedures, must be set the remarkable case of unilateral incomplete Graves's disease after removal of nasal polypi recorded by Dr. Felix Semon.[61] The patient was a man, thirty-three years of age, with multiple polypi in both nostrils. After repeated operations with the galvano-caustic loop under cocaine, it was noticed that the patient's right eye had become more prominent than the left, but there was no enlargement of the thyroid gland, the heart action was quiet, and the pulse-rate normal; in fact, no sign of a lesion of the sympathetic except the unilateral exophthalmos. When the patient was shown at the Laryngological Society,[62] four and a half years later, the pulse-rate had increased to about 100, but the exophthalmos had somewhat decreased; on the other hand, complete baldness, extending over both sides of the head, had developed shortly after the first onset of the symptoms. The hair had also come off from other parts of the body. In connexion with this case it may be mentioned that Mr. R. S. Charsley[63] has observed marked enlargement of the glands in the neck and protrusion of the eyeballs lasting for a period of three months after operation for removal of the turbinate body with the galvano-cautery. The pulse had ranged as high as 110, but complete recovery ensued. The only nasal trouble that I have myself noticed in Graves's disease was very profuse epistaxis in a woman aged forty years. The patient was much weakened by the repeated losses of blood, so I applied the galvano-cautery to the bleeding point and at once arrested the hæmorrhage, which gave her no further trouble. The course of the disease was not apparently modified by stopping the loss of blood and the patient eventually died from exhaustion consequent on profuse diarrhœa.

[46] Epitome, Brit. Med. Jour., vol. i., 1896, No. 287.
[47] Allbutt's System of Medicine, vol. i., p. 633.
[48] Die durch anderweitige Erkrankungen bedingten Veränderungen des Rachens, des Kehlkopfes und der Luftröhre, p. 58.
[49] Revue de Laryngologie, 1890, p. 35.
[50] Brit. Med. Jour., vol. ii., 1895, p. 1097.
[51] Journal of Laryngology, vol. xi., p. 161.
[52] Medical Week, Feb. 17th, 1893.
[53] Transactions of the Medical Society, vol. xvi., p. 115.
[54] St. Bartholomew's Hospital Reports, vol. xxviii., p. 28.
[55] Deutsche Medicinische Wochenschrift, 1886, xii., p. 25.
[56] Berliner Klinische Wochenschrift, 1888, xxv., p. 111.
[57] Annales d'Oculist, 1886, xcvi., p. 260.
[58] Berliner Klinische Wochenschrift, 1888, xxv., p. 42.
[59] Transactions of the Medical Society, vol. xv., p. 309.
[60] Clinical Society's Transactions, vol. xxviii., p. 265.
[61] Ibid., vol. xxii., p. 233
[62] Proceedings of the Laryngological Society, 1893, p. 41.
[63] Ibid., 1893, p. 41.

GATESHEAD CHILDREN'S HOSPITAL.—The annual meeting of the Gateshead Children's Hospital was held on Feb. 19th in the town-hall, Lord Northbourne occupying the chair. The report stated that everything connected with the actual working of the institution had been of the most satisfactory character; the income, however, was insufficient to meet current expenses and at the end of the year there was a deficiency of £119.

ALBUMINURIA IN PREGNANCY.

BY T. CLIFFORD ALLBUTT, M.D. CANTAB., F.R.C.P. LOND., F.R.S.,

REGIUS PROFESSOR OF PHYSIC, UNIVERSITY OF CAMBRIDGE.

A FEW weeks ago when reading a paper on renal disease by the most eminent writer of the day on this subject I was surprised to find the mechanical causation of renal complications in pregnancy accepted without doubt, or with but slight reservation. For some years past this factor in the untoward event had been slipping away from my mind; I had not, and have not, made any personal investigations on the subject, but insensibly the mechanical conception had lost its hold upon me. I did not ask myself how far I was alone in this change of opinion, because if I were alone I had not endeavoured to base the new views on exact research, and could not on my own part therefore claim for them any substantial value. And I regret to say that I am still without this justification. I have not made any careful research into the causation of puerperal kidney disorder; all I can do is to set the problem as distinctly as possible, so that each may work it out for himself. Perhaps it is presumption on my part to bring the matter forward at all at this stage; but I think, seeing that the mechanical hypothesis is so dominant as I have said, it is well if there be an opposite hypothesis to mention the alternative. Truth arises more readily even from error than from confusion. To state a problem clearly is to be well on the way to its solution.

Now that the renal complications of pregnancy are due merely to mechanical pressure I believe to be an erroneous opinion. The evidence, whether clinical or anatomical, in favour of it has for many years seemed to me to be very weak. Yet this explanation is by no means confined to the writer I have referred to; it is generally held. I turn to the excellent hand-book of Dr. Coats as representing the current pathological teaching, and I read[1]: "Pregnancy leads to a chronic nephritis, in all probability by obstructing the vessels of the kidneys by the pressure of the uterus." He adds that there is extreme hyperæmia of the kidney in these cases, a statement which is not universally, if generally, true. Dr. Hamilton seems to have overlooked the subject altogether. To Cohnheim I shall refer hereafter.

Let us examine this facile explanation of venous obstruction a little more closely. It depends apparently on the supposition that the enlarged uterus presses upon the renal veins and thereby raises the venous blood pressure. If the topography of the parts is considered for a moment it will be seen that this encroachment is not so easy as is supposed; it is not easy, however, to pursue the argument from anatomy on this occasion when the parts cannot be demonstrated. Again, complete thrombosis of the renal veins is not followed by renal symptoms which are averted by collateral circulation. Moreover, swelling of the legs and other such signs of venous obstruction get more and more as pregnancies increase in number, whereas albuminuria and eclampsy are evils of the primipara. But, turning to other tumours in the abdomen, see what comes of them. Like all practitioners of large experience I am only too well versed in cases of the huge encapsulated fibroid tumours of the female pelvis, yet I do not remember a single case in which the tumour produced serious kidney disorder, though disturbance of micturition and even pressure on the ureters, followed by dilatation of these tubes, and even by pyelitis, may occur. But in pregnancy there is little evidence of serious pressure on the ureters; I am not aware that dilatation of these tubes is seen as a complication of pregnancy except in rare cases. Again, there are frequent examples of a rise of venous blood pressure in the kidneys in heart disease; but both clinically and pathologically the course of clinical events is very different, I may say wholly different, from that in the renal disturbance of pregnancy, and the morbid anatomy of the kidneys is by no means common to both cases. In the cardiac kidney little degeneration is found and very little inflammation. The capsule as a rule strips off easily; there is not much evidence of cirrhosis, if any; cyanosis and hyperæmia are the most prominent features, and, indeed, there is so little structural damage that the kidney can in a bad case well recover if the circulation were restored. Now, in the puerperal kidney we find a great contrast to the cardiac kidney. So far from being a mere congestion, there are signs of acute degenerative processes penetrating the organ in all its tissues. It is not hard as is the cardiac kidney, and it is often pale. Scattered throughout it are points, or more than points, of broken-down structure, and the anatomical elements throughout are blurred and deteriorated. Many vessels are plugged. The kidney looks as if it had been subjected rather to some more intimately mischievous, I had almost said corrosive, action than to a mere mechanical interference. It does not seem, therefore, that the puerperal kidney would fall into the class of venous congestions; it is not the kidney of heart disease; it presents rather the character of an irritation too acute to give time for the cirrhotic reaction which we see in kidneys subjected to the more gradual effects of poisons acting over a long time. Cohnheim, perceiving these difficulties, suggested that the renal disturbance in pregnancy is due to a spasm of the renal arteries—a hypothesis which was suggested to him by the anuria of lead colic, followed by free urinary discharge on the cessation of the colic.

Now is there any alternative to the mechanical hypothesis and to that of spasm of the arteries? On the mechanical hypothesis we assume the kidneys to be so injured by the back pressure that suppression of urine takes place and the patient may thus die of uræmia. I have said that even if one is satisfied that considerable pressure on the abdominal veins is likely to take place in pregnancy such an event is most unusual, to say the least of it, in other cases, such as the cardiac, known to depend on venous retardation. In other such states the kidneys can do work enough to keep the patient from auto-intoxication, and there is some collateral circulation. Yet in the puerperal woman uræmia is only too common. It is idle to be content with the plausible generalisation that the puerperal woman is in a heightened nervous state, due to reflex excitement from the uterus, which makes her obnoxious to perturbations which are comparatively harmless, say, to a patient with heart disease. To go a step backward and ask why this heightened nervous state exists—a state which is adduced as the efficient cause of vomiting, chorea, whimsical fancies, and so forth—will the hypothesis of simple uterine reflex prove satisfactory? Is there anything else in the system which is able to produce this morbid excitability and other symptoms less obviously nervous?

I will consider what is seen in the pregnant woman, especially in the primipara. Braun taught that puerperal albuminuria and eclampsy always depended upon Bright's disease—a view now exploded. Tyler Smith and Leishmann explain eclampsy as a nerve reflection arising eccentrically in the uterus, and the albuminuria he refers to the high arterial blood pressure—a consequence wholly unsupported by evidence. One of the first signs of pregnancy is vomiting, of which the superficial explanation is that the awaking uterus irritates certain nerves which by reflex action set up the symptom. One hears, also, of headaches, faints, nervous irritability, and so forth, as symptoms of like causation. Can there be any agent more directly concerned in these phenomena than the "heightened reflex excitability" so easily assigned? It may be noted that many of the infections begin with vomiting, and in them, as in pregnancy, the vomiting may be persistent, so much so as to signify danger, and even the utmost peril. In many of these infections, also, albumin appears in the urine after a longer or shorter time, and may herald the approach of uræmia, with its eclampsy or coma or both. In the pregnant woman Dr. Barnes and other close and experienced observers give the assurance that the arterial blood pressure is increased, a fact better evidenced by the report of the skilled finger than by illusory sphygmographs. Not only so, but in a pamphlet by Dr. Max Dreysel the assertion, first made by Larcher in 1828, that the heart of pregnant women is hypertrophied is submitted to a close scrutiny, a scrutiny both of published evidence since Larcher's time and of his own personal observations. Dreysel decides that in pregnancy the heart is enlarged in both ventricles and in capacity as well as in thickness of the walls; the hypertrophy is of the so-called "excentric" form. The left ventricle is more enlarged than the right. This hypertrophy is said to occur in all well nourished young mothers; it increases during the course of gestation, is at its

[1] A Manual of Pathology, 1889 edition, p. 810.

height at childbed, and disappears at once when delivery is completed. This hypertrophy is attributed by some writers to increased resistance in the peripheral circulation; by others to an increase of the mass of the circulating blood; by others, again, to the interpolation of the placental circulation. Dreysel himself attributes the hypertrophy to the plethora of pregnancy—a position which does not carry conviction to my mind, or even, as it would appear from his words, to his own; he seems to give it for lack of a better.

Now, if in scarlet fever we were to see first vomiting, then nervous disturbances, then albuminuria, then enlargement of the heart—what would be the conclusion in the case? Surely that there is some toxin circulating in the body. Why then in pregnancy should we fail to consider the conclusion which is drawn so readily and so correctly in cases where the presence of a poison is better known? Because we are possessed by the prejudice that pregnancy is a normal process, as no doubt it usually is. But what then? Do we not know that our bodies even in health are dying daily, hourly, momentarily. That we are saved from poisoning ourselves only by the unceasing vigilance of our excretory organs. That if this vigilance be relaxed, or the organs over-taxed, but for a day we feel "bilious," or we become "feverish," or in some other way we exhibit signs of intoxication by waste matters defectively excreted, or perhaps arrested at some stage before that of fitness for excretion. Now can it be in pregnancy that there is some circulating poison which sets up vomiting, albuminuria (which we know that other poisons do) and ultimately even eclampsy. Is there any evidence of such a poison? We must remember that even in Bright's disease, wherein we speak glibly of uræmia as if we knew all about it, we know precious little. The poison of uræmia is as yet undetected. All we can say is that it is not this or that; it is not urea, not uric acid, not kreatin, and so forth. Still it is slowly perverting the peripheral circulation, enlarging the heart, and leading on that series of changes which may ere long burst out suddenly as uræmia, as vomiting, headache, eclampsy, or coma. Such a series we can see in lead poisoning; the poison of lead acts the whole play for us; it embarrasses the peripheral circulation raises the arterial blood pressure, prevents excretion by overtaxing and laming the kidneys, and this leads to uræmia in its full manifestation. It would seem that two poisons at least are concerned, the one leading to convulsions, the other to coma. In some not infrequent cases the two acting together produce convulsions followed by coma.

The next question is whether, on consideration of this argument from analogy and on searching accordingly for such a poison in pregnancy, there is any direct evidence of a poison capable of causing peripheral resistance in the bloodvessels, vomiting, often severe, sometimes uncontrollable, albuminuria with damage to the kidney as it passes out or tries to pass out, and ultimately, perhaps, an appalling attack of uræmia? There is some such evidence: in the first place it is known that there is a toxin as yet unseparated in healthy urine. The kidney, like the bowel, is a means of escape for poisons formed in the course of degradation of our working tissues or by parisites. In 1881 Feltz and Ritter began to work at the subject of toxins in the urine, and wrote in that year a thesis entitled "Urémie Expérimentale." Their labours were taken up by Bouchard and others, and although the very poison itself defied detection, yet its presence was demonstrated by them beyond question. Healthy urine filtered and neutralised is poisonous to a rabbit in a mean dose of 40 c.c. per kilogramme of body weight. Thus the whole urine of twenty-four hours would kill 30 kilogrammes of rabbit; or to put it otherwise would kill the man himself in 52 hours supposing man to be as susceptible as rabbit and to have no time advantage in excretion. The symptoms produced by this toxin are myosis, even to the degree of punctiform pupil, accelerated respiration, somnolence, falling of temperature, and coma without convulsion or with light twitchings. At first diuresis is observed, until the attempts of the kidneys to get rid of the poison are overborne. In the rabbit towards the end exophthalmos and dilatation of the vessels of the ear are noted. Now what is this poison be it one or more? As I have said it has not been isolated and it is as yet indicated by negatives; it is not urea, it is not uric acid, it is not kreatinin, it is not potassium chloride which, though poisonous, and contributing to the very poisonous quality of the urine of herbivora, can be removed before the experiments are begun. Dr. Thudichum thinks that it lies in the colouring matters of the urine. On the whole it seems as yet most probable that the toxin, or one of several, is absorbed from the bowel, for it is less in amount in a fasting animal, in hibernation, and in the urine after sleep. As it is strengthened by fatigue, as is found when the urine after eight hours labour is used, "fatigue products" may form some part of it; on a day after great exertion the urine is more toxic. On the other hand moderate exercise seems to clear the body, or at any rate the urine, of the poison.

In the next place we inquire where this poison is formed. Is it formed in the kidney? Some experimenters regard the kidney as a mere filter; others regard it as a gland. There is every probability that both sides are right, the glomeruli being filters; the convoluted tubes being glandular in function. The glomeruli are dialysers; if their epithelium be stripped off it seems that their powers of retention, say of albumin, are weakened; and albumin then appears in the urine. But the albumin is not the toxin: merely to alter the venous pressure will produce albuminuria, as we have seen. But the circulation of certain toxins will do the same as that of diphtheria, scarlet fever, of the tubercle bacillus, or again as the products of ordinary putrefaction. Whether these agents in causing lesions of the elements of the kidney act directly or indirectly through the vaso-motor system or still more indirectly by impressing the heart or nerve centres (probably they injure the renal epithelium and allow the albumin to escape) we cannot tell. However these things may be, there is no doubt at any rate that the kidney, like the bowel, is often the channel of the escape of the toxins; and so long as the renal functions are intact, so long the toxin may escape, and usually does so escape, without doing any harm. But this brings us back to the inquiry where are the toxin or the toxins formed? We cannot penetrate so far as this, but we can go one step backward and show that the liver is at fault. The toxin itself, indeed, may be absorbed direct from the bowel, as such bodies are absorbed daily without harm to us; but the means of our impunity is the liver, which, besides its glycogenic functions and its urea-forming functions, is also charged with the neutralisation of the toxins which find their way into the circulation. The tendency to acute atrophy of the liver in pregnant women is well established. The liver may well be a large organ; in the fœtus it is relatively very large, a fact to which I shall return presently. If then for any reason this protective function of the liver be checked, or a larger quanty of toxin be turned into the blood than the liver can deal with, the excess will fall directly on the kidney, and probably will so injure its finer structures that albumin can leak through. More than this it may inflict serious and permanent damage on the kidney itself, not to mention other parts of the body to which it is injurious. My own working opinion is that all Bright's disease is toxic in origin. Uræmia then is a retention of these toxic bodies in the system, and here one word of warning may be spoken, namely, not to regard the mere aqueous element of the urine as a gauge of the elimination of toxines; free urinary discharge may be consistent with a poor content of matters in solution. In fact, if the patient be showing signs of poisoning, it may well be that the urine, whether aqueously abundant or not when injected into the test animal, may be found not more, but less, toxic than at an earlier date. Indeed, this is found to be the fact: when the urine is taken from a puerperal woman suffering from albuminuria and uræmia, and whose kidneys therefore are presumably overtaxed, this urine is found not more but less toxic to animals. Massieu[2] not only arrived at this result as others had done, but he went on to the logical consequence and showed that the serum of such a patient on the other hand is more toxic, and other authors have corroborated his statement. Tarnier and Chambrelent say that the toxic power of this serum is to ordinary blood serum as 3 to 6 c.c. per kilogramme is to 10 c.c., that is, from 3 to 6 c.c. will prove the equivalent of 10 c.c. of normal serum; in other words, the serum of an eclamptic woman is always twice as poisonous as the normal serum, and sometimes is three times as poisonous. We have a familiar illustration of this in the fact that the fœtus is too often the test animal; in cases of puerperal albuminuria with symptoms of uræmia the fœtus is poisoned, it is either killed outright or is more or less seriously injured. Hence one great reason for hastening delivery. The serum of such a fœtus has also been found highly toxic, as we should expect; in two experiments it was as 4 c.c. to 10 c.c., in a

[2] De la Toxine de la Sérum.—Thèse de Bordeaux, 1893.

third as 6 c.c. to 10 c.c. As I have said just now it is well that the fœtus has a relatively large liver; its kidneys do little or no work till after birth and it is surrounded by fountains of toxins. The water of the amnion contains no toxins; but probably the placenta has some protective functions. In this direction we may find the mode of Colles' law; the syphilitic fœtus slowly distils its poison through the placenta, and the mother is slowly inured to the poison and gains immunity. If poisons be injected into a fœtus and the umbilical cord be tied no harm comes to the mother, but as soon as this ligature is removed the mother suffers at once. This Gusserow has shown conclusively.

To return to the puerperal woman in whom uræmia is established, do we find in her any effect of toxins in other parts of the body? More than one necropsy has been made from this point of view. Perhaps the most careful one was published in 1892 by W. Lindemann of Moscow[3]; the case is useful in this argument as it was not a case of eclampsy, but of persistent vomiting, a symptom which I would indicate as another evidence of a circulating toxin, and not of mere nervous reflex. Lindemann made a most minute investigation of the whole body, and if his observations are supported by other observers the evidences of auto-intoxication will become very strong. It is impossible to give Lindemann's results in full or even in abstract; but I may say in brief that he found those evidences of acute degenerative changes in the liver and kidney which are characteristic of toxic influence. The spleen was also enlarged as has been found in other cases of the kind; indeed, I believe I may say it is usually enlarged in eclampsy and in other deaths in pregnancy and it is vaguely attributed to a "need of compensation in the circulation." Neuritis was well marked in several tracts. The fœtus showed participation in the effects of poisoning and, if not actually killed outright, was not viable.

Now all these features bring the pregnant state into some comparison with the infections. Those who have had large midwifery experience are aware how often albumin, an early sign of a toxic condition of the system, is found in healthy pregnant women, or rather in women showing no other departure from health. I find its frequency variously estimated by sundry authors—namely, from 2 per cent. to 6 per cent. and even to 10 per cent. In these estimates, or in some of them, primiparas are indiscriminately mingled with multiparas; if I take primiparas alone, the percentage is as high as 5 per cent. to 6 per cent. Blot and Litymann, indeed, believe it would be found, if carefully sought for throughout, in 20 per cent. of all pregnant women and much higher in primiparas (Leishmann). I do not go fully into my authorities for these estimates, which would involve some comparison of their respective trustworthiness; it may be sufficient to say that albuminuria is found in a substantial percentage of pregnant women who show no other sign of ill health. As a rule, this albumin disappears within a day or two of delivery, though in primiparas it is longer delayed and is fraught with more danger to the kidneys so irritated. Casts do not seem to have any relation to the amount of albumin or to have any great prognostic value.

Another necropsy illustrative of my present argument was published by Stembo[4] last year. This was made also in a case of uncontrollable vomiting; and signs of extensive polyneuritis were discovered. Albumosuria is found even more often than albumin in these cases; but I will not enter into this part of the evidence, as the albumose may be absorbed from the amniotic fluid, as the lactose, also found in the urine of pregnant women, is derived from the milk. I will turn rather to another interesting point of the present argument—namely, the deterioration of heart diseases in pregnancy. All writers agree that pregnancy bears hardly on sufferers from heart disease; the harm is not altogether or even largely dependent on the strain of labour—it would rather seem that there is something in the pregnant state prejudicial to weak hearts, that in it the cardiac muscle is deteriorated. If this be so, there is no agent so well calculated to deteriorate it as a circulating toxin. Bar and Renon[5] in a case in which a woman died from mitral failure in pregnancy, examined the blood serum in search of the cause. They found the toxicity of her blood serum and also of the urine considerably increased. The kidneys were acting, therefore, better than the state of the heart would have suggested. Our next question will be, whence come this toxin? Is there a microbe of pregnancy, or is the poison generated by the changes incident to pregnancy? If the latter be the case is this poison generated in all cases; or is it peculiar to cases which have gone wrong in some way? Very careful search has been made for a microbe, and certain investigators believed that they have found the offensive parasite. Bar and Renon whom I have already referred to as workers in this field, found streptococci in one case of peurperal eclampsy, but in two subsequent cases they were unable to find any microbe. In all three cases the toxicity of the blood was very high. Leusden[6] made a minute bacteriological examination in two necropsies of puerperal eclampsia. He decided that there was no evidence of a bacterial origin for the toxins. He concluded that the cause of eclampsy is a toxin formed from the blood in the course of metabolism. There were no signs of placental changes. There was no evidence of embolism or of thrombosis to account for the symptoms, whether by travelling "giant cells" or liver cells, or clots. Any such changes found were obviously accidental. In 1892 Favre induced puerperal convulsions by injecting bacteria into pregnant animals, but this proves no more than that the nervous centres were already in a hypersensitive state, which we know to be the case in all pregnancies, a sensitiveness or heightened excitability due in my opinion to some circulating toxins. Here ends what I have to say on the pathology of the question. I will now briefly turn to the symptoms of pregnancy, or rather to some of them.

We know that toxins tend to expend their malignant power largely upon the nervous system; and in proportion, as the nervous system is developed their effects become the more perilous. This is the case in all the infections. Now, the abnormal excitability of the nervous system in pregnant women has been insisted upon by many obstetricians, by none more strongly than by Dr. Barnes. To the many nervousnesses of pregnancy I need not do more than allude, our own experience will supply the examples. We know, moreover, how liable puerperal women are to such nervous diseases as severe headache, chorea, and neuralgia of a peculiarly obstinate kind relieved at once on delivery. Chorea gravidarum, if it does not cease, is modified for the better on delivery. To the vomiting I need not again refer. Dyspnœa is described by many writers and referred to the reflex neuroses. Tetany again is not very uncommon in pregnancy. Neumann has recently reported two cases, and many moreare on record. To eclampsy I need not again refer. Again, it is more and more recognised that neuritis is no very rare sequence of pregnancy. Mobius has just recorded two more cases[7]; and, finally, insanity is but too well known as a result of child-bearing. If, again, we turn our eyes to other symptoms which may well be due to a toxin in the blood, we remember at once the liability of pregnant women to blood disorders, such as phlebitis and thrombosis of the vessels of the brain and other parts. The terrible susceptibility of pregnant or recently delivered women to septic poisoning is too painfully present to our minds; and it suggests that the blood in these cases is already in a state of unstable equilibrium; a state for which a pre-existing toxin therein might account. Finally, as in lead-poisoning and in Bright's disease, we find the red cells diminished both in number and in hæmoglobin value.

One word on the value, if any, of this toxin point of view to practitioners. I fear that I can say no more than this—that the more we know of the real nature of the morbid states with which we have to deal the better we shall be able to treat them. Of definite and immediate advantages I fear I have none to advance. But we are enabled to see more distinctly the reasonableness of certain measures which we have empirically learned to take in cases of danger. Especially does this theory of a circulating toxin in all pregnancies assure us of the usefulness of the precaution of promoting early delivery in cases which lend themselves to this treatment. Even in dangerous and persistent vomiting, if the mother's life be in danger we must bring about expulsion of the fœtus. In eclampsia this is a still more pressing step. We shall most carefully keep an eye on albuminuria, not regarding it as a mere mechanical accident, but as the signal of a danger essentially implicated in the process of pregnancy itself. Any other signs of a

[3] Centralblatt für Allgemeine Pathologie Jena. Aug. 20th, 1892.
[4] Deutsche Medicinische Wochenschrift, 1896, No. 27.
[5] Société de Biologie de Paris, reported in Progrès Medical, No. 9, 1874, p. 148.
[6] Beiträge zur Pathologischen Anatomie der Puerperal Eclampsie. Virchow's Archiv, Band cxlii.
[7] Münchener Medicinische Wochenschrift.

toxic state must be minutely observed with a view to the prevention, if possible, of further mischief. As the toxin may, in part at any rate, be absorbed from the bowel, a patient should be carefully dieted from the time of any suspicious symptoms, such as Chaussier's symptoms of violent pain in the stomach—always a precursor of eclampsia. All substances likely to promote gastro-intestinal catarrh—that mother of poisons—should be forbidden. It may indeed be necessary to reduce the diet to milk, which we find to be the diet which lends itself least to the generation of toxins in the body. At the same time by the administration of such antiseptics as salicylate of bismuth, salol, benzo-naphthol, and occasional mercurials we shall try to keep the bowel as clean as possible. Again, knowing now the important part of the liver in neutralising toxins, whatever their source, we shall jealously watch the condition of this precious organ; and if necessary, by estimating the excretion of urea and so forth, we shall keep ourselves informed of its activity. The presence of albumin again will not be overlooked, but rather we shall be diligent in search for it from early periods of pregnancy, especially in primiparæ; and, not being bound by the mechanical hypothesis, we shall remember that albuminuria is by no means a constant forerunner or concomitant of eclampsia. If we have the opportunity of so doing we may test the toxicity of the urine on rabbits, but this is not of much direct help, as a free excretion of toxin is consistent with the retention of much more in a case in which the poison is very actively formed and to test the toxic co-efficient of the blood serum is not often convenient, even if we make the observation. Lapique, at a subsequent sitting of the Société de Biologie, reported that unfortunately he could not find that any diet controlled the toxo-genetic process, nor, indeed, could he find any law or concomitant variation in its oscillations. Happily, it seems beyond all doubt that in the last resort we can stop its formation at once by inducing premature labour, and in cases either of danger to life, or even of danger to an important organ such as the kidneys, we have this means in our hands. Chambrelent[8] stated that the toxic co-efficient of the urine in normal cases of pregnancy falls on delivery, almost at once, from 0·46 to 0·25.

In conclusion, I may be asked why these toxic accidents are prevalent in primiparas rather than in multiparas. Here is, so far as I know, the one argument of those who take the mechanical view of the causation of puerperal albuminuria and kidney disease. My reply to this difficulty is, I admit, a theoretical one. We know that the formation of the toxins is not peculiar to the primipara. On the contrary, the toxic co-efficient of the urine of the multiparous woman is no less than that of the primipara. Her immunity lies not in the prevention of the poisonous brew but in a protection of the system against its consequences. I believe that immunity is gained against the poison of pregnancy as it is against so many other toxins—as, for example, that of scarlet fever. Whether this lies in the brewing of an antitoxin, or in an education of the cells of the body, or, again, in a reinforcement of the capacities of the liver and kidneys enabling them to deal more summarily with the offending element, I cannot say. That primiparas do suffer in large proportion is well shown by Olshausen,[9] who reported that of 200 consecutive cases of eclampsia extending over five and a half years of his experience 74 per cent. were in primiparas. Of these, again, 25·5 were old primiparas. I repeat that the blood serum and urine are as hypertoxic in the multipara as in the primipara. We must surmise, then, that a protection is established during a first pregnancy of a like kind to that of a first attack of many infectious diseases.

Cambridge.

[8] Société de Biologie, Feb. 20th, 1892, vide la Semaine Médicale. 1892, No. 10.
[9] Volkmann's Sammlung Klinischer Vorträge, 1892, No. 39.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST.—The annual court of governors of the City of London Hospital for Diseases of the Chest was held on Feb. 18th, Mr. Julian Hill, the treasurer, presiding. The report showed that during the past year there were 939 in-patients under treatment; there were also 16,166 out-patients, who made 68,231 attendances. It had been found necessary to raise a loan as the expenditure had exceeded the income by £2430.

SOME SMALL-POX STATISTICS.

BY SIDNEY COUPLAND, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE MIDDLESEX HOSPITAL.

(*Concluded from p. 513.*)

The types of small-pox.—There is yet another test that can be applied to the alleged influence of vaccination upon small-pox analogous to that derived from a comparison of death-rates. It is that which concerns the *type* of the disease—a study that is further of value as affording opportunity for noting the remarkable modification in course and character that is often exhibited. But this very modification enhances the difficulty of instituting an exact comparison in this respect between the vaccinated and unvaccinated. Small-pox manifests itself in many ways. The peculiar character of the exanthem, the definite stages of its evolution, and the extent of its distribution afford a ready means of classifying cases according to their severity. In no other infective disease is so precise a division possible. Nevertheless, these various types, based on the character of the rash, do not precisely correspond with degrees of severity or gravity. In a class apart stand the truly hæmorrhagic or "malignant" cases, resembling the malignant forms of other specific fevers, where the intensity of the intoxication is such as to cause profound changes in blood and tissue, leading to speedy death, generally before any characteristic papulation has appeared. Or the typical rash may be in abeyance and, so far as the skin is concerned, the only lesions be a wide-spread erythematous or finely morbilliform rash, associated with abundant petechial hæmorrhages. Such cases ought to be clearly distinguished from the other—not infrequent—variety of "hæmorrhagic small-pox," where the hæmorrhage takes place into vesicles or pustules, and where, too, hæmorrhage may occur from mucous membranes, as in the malignant cases. Yet there is this difference between the two forms—the truly malignant is invariably, the secondarily hæmorrhagic not always, fatal. It is not difficult to discriminate four categories based upon the character of the rash, although obviously there are transition forms, which may be placed in one or other group according to the judgment of the observer. These types are—(1) the confluent; (2) the coherent (or semi-confluent); (3) the discrete; and (4) the mild or "sparse," to which the term "varioloid" is sometimes applied—a term just as applicable to any of the other forms that fail to undergo the typical evolution. These abortive cases in the confluent series are characterised by an arrest of the process at the stage of maturation, the desiccation takes place rapidly, without the secondary septic fever intervening, and the abundant staining left after the separation of the scabs is not followed by any marked "pitting." In the coherent class these "formes frustes" exhibit a similar abrupt arrest in evolution, the pustules not developing to the full, whilst in the discrete and mild types the process may be, and very often is, cut short at the papular stage, maturation entirely failing. Now, in both classes of subjects—vaccinated and unvaccinated alike—I have seen this arrest of the stages of the variolous exanthem occur, but with far less frequency in the latter than in the former. It may almost be said to be the rule in the vaccinated and the exception in the unvaccinated, but the term "modified" is hardly applicable to every case if this phrase be solely restricted to the influence of vaccination. Conversely, the eruption in the majority of the unvaccinated goes through all its stages, but in the vaccinated this "unmodified" course is mainly restricted to adults. I am unable to give statistical expression to this experience, and must therefore ignore it here, treating each of the various classes as if it was in its individual components of uniform severity, whereas, had it been possible to have further analysed them in respect to the occurrence or not of secondary fever, the arrest or not of the rash at various periods of its evolution, and the duration of the acute stage, a most instructive comparison might have been obtained. The clinical records of well organised small-pox hospitals can, however, supply this deficiency.

In considering the question of the proportionate distribution of the types of small-pox it will not be necessary to limit the cases to those upon which the attack rates were calculated, and I will therefore include in the analysis all the cases of small-pox known to me to have occurred in the three districts,

excluding only those of which particulars as to age and type were not ascertained. This latter deduction made, there was a total of 3342 cases of small-pox—viz., Dewsbury, 1009, Leicester, 357, and Gloucester, 1976, which may be thus classified:—

TABLE IX.—*Types of Small-pox.*

—	Malignant and confluent.	Coherent and discrete.	Mild.	Total.
Dewsbury	272	456	231	1009
Leicester	96	134	127	357
Gloucester	852	619	505	1976
	1220	1209	913	3342

The greater proportionate severity of the cases in the Gloucester outbreak, already seen in its high mortality, is here again apparent, for in that place the "malignant and confluent" types furnished 43 per cent. of all attacked (there were actually seventy-three cases of *malignant* small-pox), at Dewsbury and at Leicester they supplied in each 27 per cent. On the other hand, at Leicester, where the mortality was exceptionally low, the "mild" cases were in excess of the proportions at either Dewsbury or Gloucester, being 35·6 per cent. of the whole number attacked, as compared with 27·8 and 25·6 per cent. in those towns respectively.

Age in relation to the type of small-pox.—Of the whole number 3342 persons attacked by small-pox 1031 (or about 31 per cent.) were under ten years of age, 1477 (or 42 per cent.) were at ages between ten and thirty years, and 894 (or 27 per cent.) were aged thirty years and upwards, figures which correspond with those previously given in respect to the excessive incidence of the disease upon young children. Even if allowance be made for a possibly greater liability on the part of the very young to suffer severely when attacked, it is yet remarkable how much above the ratio just given was that of the same age-period in the severer types of the disease. For of all the cases of "malignant and confluent" small-pox, 53 per cent. were in children under ten years of age, 27 per cent. in persons of from ten to thirty years, and 20 per cent. in those aged thirty years and upwards, whereas of "mild" small-pox only 12 per cent. are to be found in the youngest series, 57 per cent. in the next, and 31 per cent. in the oldest. These ratios of severity of attack, indeed, approximate more closely with the ratios of the vaccinated in these several age-periods, except that as age advances the proportion of the severer types amongst the vaccinated rises. For at ages under ten years the vaccinated were to the unvaccinated as 4 to 74, at ten to thirty years as 55 to 22, and at thirty years and upwards as 41 to 4. These ratios may be better contrasted when placed side by side in tabular form.

TABLE X. — *Proportionate (Percentage) Distribution of Small-pox Attacks.*

Age.	All classes.	Malignant and confluent.	Coherent and discrete.	Mild.	Vaccinated.	Unvaccinated.
Under 10 years	31	53	22	12	4	74
From 10 to 30 years	42	27	47	57	55	22
30 years and over...	27	20	31	31	41	4
	100	100	100	100	100	100

I propose now to consider the relative distribution of these types of small-pox in each of the three districts and at these several age-periods with more precise reference to their relationship to the vaccination condition of the attacked. For the sake of completeness it is necessary to deal with them from two points of view: first, to ascertain the proportionate distribution of these various types of the disease between the vaccinated and unvaccinated respectively; and second, to ascertain the proportion of the vaccinated and unvaccinated amongst the cases of each of the types of small-pox. In Tables XI. and XII. the actual numbers and the percentage rates are given for every place and age on these points, whilst Diagrams 1 and 2 illustrate the general results obtained by combining the figures derived from the three sources.

Proportionate distribution of types of small-pox between the vaccinated and unvaccinated (Table IX.).—It is impossible not to be struck by the fact that amongst the unvaccinated, at every period of life, there was a close correspondence between the proportions of the malignant and confluent attacks, the variations (on the whole series) not amounting to more than 6 per cent., the mean ratio of this type being 67 per cent.; and this correspondence is carried out also in respect to the other types of the disease amongst the unvaccinated, the mean for the mild cases being about 5 per cent. On the other hand, the vaccinated class shows less uniformity in the distribution, for the malignant and confluent cases range from 6 per cent. in subjects under ten years to 24 per cent. in those of thirty years and over, the mean being 17 per cent. The "mild" cases amongst the vaccinated form 72 per cent. of those of this class under ten, and diminish to 33 per cent. at ages thirty years and over, the mean being 41 per cent. Had these variations been merely accidental, and had vaccination no part in creating them, the distribution of the types would have been very different from what actually obtained. For of all the groups, the proportion of malignant and confluent cases was 36·5 per cent., of coherent and discrete 36·2, of mild 27·3 per cent., which would have yielded, had these proportions been equally maintained in each class, amongst the *vaccinated* (2056 persons) of malignant and confluent cases 751 instead of 354, of coherent and discrete 744 instead of 860, of mild 561 instead of 842; whilst the *unvaccinated* (1286 persons) should have yielded of malignant and confluent cases 469 instead of 866, of coherent and discrete 466 instead of 349, and of mild 351 instead of 71 cases.

The information supplied by Table XI. requires little to supplement it. In the age-period "under ten years" the very small figures of the vaccinated class rather diminish the value of the percentages, but it is at any rate of interest to note that at Leicester only two cases, and these of mild type, fall into this category, and that at Dewsbury and Gloucester together there were only five of malignant and confluent type out of 73 attacked, the percentage of mild cases being 74 and 65 for each of these places respectively. On the other hand, the proportion of mild attacks amongst the unvaccinated class was precisely the same at Dewsbury as at Leicester—namely, 9·3 per cent., and only half this figure at Gloucester, where, out of a total of 677 attacks, no fewer than 501 were of the malignant and confluent types. In the age-period "ten to thirty years" it is interesting to observe that the proportion of malignant and confluent cases amongst the vaccinated was much higher at Gloucester than elsewhere, and lowest at Leicester, which also yielded by far the highest ratio of mild attacks. On the other hand—and this again shows the comparative mildness of its outbreak—the proportion of malignant and confluent cases at Leicester amongst the unvaccinated was far below that which obtained either at Dewsbury or Gloucester. In the age-period "thirty years and upwards" the numbers of the unvaccinated are so few as to render the percentages of small value, nevertheless, there is the same predominance of severe cases in this class at each place. Amongst the vaccinated it will be observed that Gloucester again far exceeds Dewsbury or Leicester in the proportion of severe cases.

Proportionate distribution of the vaccinated and unvaccinated amongst the types of small-pox.—Viewing this question from the other side (Table XII.) it is seen that for the whole series the vaccinated were about 62 per cent. of the attacked, that amongst the malignant and confluent they constituted 29 per cent., amongst the coherent and discrete 71 per cent., and amongst the mild cases 92·2 per cent. The great preponderance of unvaccinated children in these communities (93 per cent. of all attacked under ten years) necessarily results in a large proportion of each type being of this class, yet in spite of the small numbers of the vaccinated at this age very nearly one-half of the "mild" attacks were in this category; although the differences between the three communities are very great, owing to these small numbers of the vaccinated attacks. In the other age-periods the smaller proportions of the unvaccinated do not affect the mean being considerably exceeded for the severe cases, and the ratio similarly lowered for the mild attacks, whilst as regards separate districts, the proportion of the vaccinated amongst the severe types is much higher at Gloucester than elsewhere. Thus, then, apart from

TABLE XI., SHOWING DISTRIBUTION OF VARIOUS TYPES OF SMALL-POX BETWEEN THE VACCINATED AND UNVACCINATED.

1.—AT ALL AGES.

—	All classes.				Vaccinated.				Unvaccinated.			
	D.	L.	G.	Total.	D.	L.	G.	Total.	D.	L.	G.	Total.
Malignant and confluent	272	96	852	1220	54	17	283	354	218	79	569	866
Coherent and discrete	456	134	619	1209	332	70	458	860	124	64	161	349
Mild	231	127	505	913	230	112	470	842	21	15	35	71
	1009	357	1976	3342	646	199	1211	2053	363	158	765	1286
Proportionate Distribution (Per Cent.).												
Malignant and confluent	26·9	26·8	43·1	36·5	8·3	8·5	23·3	17·1	60·0	50·0	74·4	67·3
Coherent and discrete	45·2	37·5	31·3	36·2	51·4	35·2	37·8	47·9	35·0	40·5	21·0	27·1
Mild	27·8	35·6	25·6	27·3	40·3	56·3	38·8	41·0	6·0	9·5	4·6	5·5

2. UNDER 10 YEARS.

Malignant and confluent	96	54	504	654	2	—	3	5	94	54	501	649
Coherent and discrete	72	43	151	266	10	—	6	16	62	43	145	250
Mild	51	12	48	111	35	2	17	54	16	10	31	57
	219	109	703	1031	47	2	26	75	172	107	677	956
Proportionate Distribution (Per Cent.).												
Malignant and confluent	43·8	49·5	71·6	63·4	4·3	—	11·5	6·6	54·6	50·5	74·0	67·9
Coherent and discrete	32·8	39·4	21·5	25·8	21·3	—	23·1	21·4	36·0	40·2	21·4	26·1
Mild	23·3	11·0	6·8	10·8	74·4	100·0	65·4	72·0	9·3	9·3	4·5	6·0

3.—FROM 10 TO 30 YEARS.

All classes.				Vaccinated.				Unvaccinated.			
D.	L.	G.	Total.	D.	L.	G.	Total.	D.	L.	G.	Total.
130	28	169	327	23	5	118	146	107	23	51	181
268	52	250	570	239	32	240	431	59	20	10	89
157	81	282	520	154	77	278	509	3	4	4	11
555	161	701	1417	396	114	636	1136	169	47	65	231
Proportionate Distribution (Per Cent.).											
23·5	17·4	24·1	23·0	6·0	4·5	18·5	12·8	63·3	48·9	78·4	64·1
48·2	32·3	35·6	40·3	54·0	28·0	37·7	42·4	34·9	42·5	15·4	31·7
28·2	50·3	40·2	36·7	40·0	67·5	43·8	44·8	1·8	8·5	6·1	3·9

4.—30 YEARS AND OVER.

46	14	179	239	29	12	162	203	17	2	17	36
116	39	218	373	113	38	212	363	3	1	6	10
73	34	175	282	71	33	175	279	2	1	—	3
235	87	572	894	213	83	549	845	22	4	23	49
Proportionate Distribution (Per Cent.).											
19·5	16·1	31·3	26·6	13·6	14·4	29·5	24·0	77·2	50·0	73·9	70·3
49·4	44·8	38·1	41·9	53·0	45·8	38·6	43·0	13·6	25·0	26·0	20·5
31·0	39·1	30·6	31·5	33·3	39·7	31·8	31·0	9·1	25·0	—	6·1

TABLE XII., SHOWING DISTRIBUTION OF THE VACCINATED AND UNVACCINATED AMONGST TYPES OF SMALL-POX.

1.—AT ALL AGES.

—	All cases.				Malignant and confluent.				Coherent and discrete.				Mild.			
	D.	L.	G.	Total	D.	L.	G.	Total	D.	L.	G.	Total.	D.	L.	G.	Total.
Vaccinated	646	199	1211	2056	54	17	283	354	322	70	458	860	260	112	470	842
Unvaccinated	363	158	765	1286	218	79	569	866	124	64	161	349	21	15	35	71
	1009	357	1976	3342	272	96	852	1220	456	134	619	1109	281	127	505	913
Proportionate Distribution (Per Cent.).																
Vaccinated	64·0	55·7	61·2	61·5	19·8	17·7	33·2	29·0	72·8	52·2	74·0	71·0	92·5	88·2	93·0	92·2
Unvaccinated	36·0	44·3	38·8	38·5	80·2	82·3	66·8	71·0	27·2	47·8	26·0	29·0	7·5	11·8	7·0	7·8

2.—UNDER 10 YEARS.

Vaccinated	47	2	26	75	2	—	3	5	10	—	6	16	35	2	17	54
Unvaccinated	172	107	677	956	94	54	501	649	62	43	145	250	16	10	31	57
	219	109	703	1031	96	54	504	654	72	43	151	266	51	12	48	111
Proportionate Distribution (Per Cent.).																
Vaccinated	21·5	1·8	3·7	7·2	2·0	—	0·6	0·8	14·0	—	4·0	6·0	68·0	8·3	35·4	43·6
Unvaccinated	78·5	98·2	96·3	92·8	98·0	100·0	99·4	99·2	86·0	100·0	96·0	94·0	32·0	91·7	64·6	51·4

3.—FROM 10 TO 30 YEARS.

All cases.				Malignant and confluent.				Coherent and discrete.				Mild.			
D.	L.	G.	Total.	D.	L.	G.	Total.	D.	L.	G.	Total.	D.	L.	G.	Total
386	114	636	1136	23	5	118	146	269	32	240	451	154	77	278	509
169	47	65	281	107	23	51	181	59	20	10	89	3	4	4	11
555	161	701	1417	130	28	169	327	328	52	250	570	157	81	282	520
Proportionate Distribution (Per Cent.).															
69·5	70·8	90·7	80·2	17·7	18·0	69·8	44·6	78·0	61·5	96·0	84·4	98·0	65·0	98·6	97·8
30·5	29·2	9·3	19·8	82·3	82·0	30·2	55·4	22·0	38·5	4·0	15·6	2·0	5·0	1·4	2·2

4.—30 YEARS AND OVER.

213	83	549	845	29	12	162	203	113	38	212	363	71	33	175	279
22	4	23	49	17	2	17	36	3	1	6	10	2	1	—	3
235	87	572	894	46	14	179	239	116	39	218	373	73	34	175	282
Proportionate Distribution (Per Cent.).															
90·6	95·4	96·0	94·5	63·0	85·6	90·0	85·0	97·5	97·5	97·3	97·3	97·3	97·0	100·0	98·9
9·4	4·6	4·0	5·5	37·0	14·4	10·0	15·0	2·5	2·5	2·7	2·7	2·7	3·0	—	1·1

the question of manifest modification of the form of the disease, a primary vaccination does undoubtedly exert an appreciable influence in determining the type from which the patient suffers, an influence most marked in early life, but not entirely in abeyance even in advanced age.

In conclusion, I may perhaps be permitted to add that throughout these several inquiries every endeavour was made to deal with the question without bias, and in collating the information to compile the statistics without any preconceptions of their bearing on the main problem. The figures are small indeed compared with those which have been furnished from all quarters upon the question, but at any rate no pains have been wanting to avoid the fallacies which are liable to vitiate returns of this kind. Perhaps the point of chiefest importance in connexion with them is that they are based on small-pox outbreaks in comparatively "unvaccinated" communities, where there could seldom be any doubt as to the fact of non-vaccination or as to this being due to the subject being of delicate constitution. Moreover, on the other side it must not be forgotten that the class of the "vaccinated" is a heterogeneous one, comprising individuals in whom little or no trace of vaccinia remained or where it had obviously been very imperfectly performed. I do not find myself able to offer any reliable data upon the attack-rates of the re-vaccinated, who formed, however, a very small contingent of those attacked by small-pox.

Queen Anne-street, W.

DIAGRAM 1.

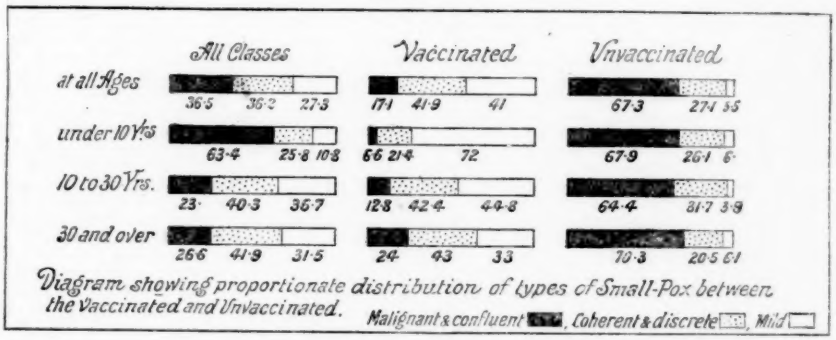
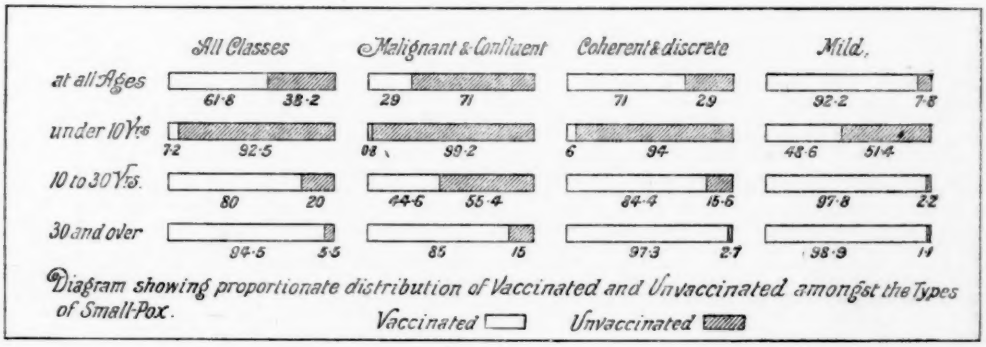


DIAGRAM 2.



CHRONIC INTERSTITIAL NEPHRITIS IN CHILDHOOD.[1]

BY LEONARD G. GUTHRIE, M.A., M.D. OXON., M.R.C.P. LOND.,

PHYSICIAN TO THE REGENT'S PARK HOSPITAL FOR PARALYSIS; PHYSICIAN TO OUT-PATIENTS AT THE PADDINGTON-GREEN CHILDREN'S HOSPITAL AND THE NORTH-WEST LONDON HOSPITAL.

WHEN an adult aged upwards of forty years complains of headache and vomiting, drowsiness, languor and wasting, and on examination we find him sallow, cachectic-looking, and emaciated, the pulse hard, the heart hypertrophied, the urine of low specific gravity and increased in quantity, with or without a trace of albumin, we do not usually hesitate to diagnose granular kidney, although there may never be a sign of dropsy. Then if he dies comatose after a series of convulsions or gets a large cerebral hæmorrhage, the course of the case is not unusual. It is too common to be worth recording. But it is otherwise when young children suffer from similar symptoms. It is true that granular kidney is no longer regarded as essentially a disease of old age, but all agree that it is excessively rare under twenty.

I have collected seven cases of children aged between five and fourteen years who succumbed to chronic interstitial nephritis. In all of these the diagnosis was confirmed by post-mortem examination. Two of these, a girl and boy aged twelve and fourteen years, are recorded by Dr. Dickinson.[2] Dr. Goodhart quotes two from Dr. Ashby of Manchester both girls, aged ten years and eleven and three-quarter years respectively. He also mentions a boy aged six years who died from the complaint.[3] Dr. W. H. Barlow[4] has related very fully and completely the history of a girl aged five years in whom typically granular kidneys were found after death. Finally I have myself met with a little girl, aged seven years, who suffered from characteristic symptoms of granular kidney during life and in whom the lesions of interstitial nephritis were disclosed by post-mortem examination. A more

[1] A paper read before the Harveian Society of London on Nov. 19th, 1896.

[2] Albuminuria, second edition, p. 194.

[3] Keating's Encyclopædia of Children's Diseases, p. 541.

[4] THE LANCET, Aug 1st, 1874, p. 151.

PRINT IN BINDING

extended research into the literature of the subject would doubtless reveal additional numbers, but those collected are sufficient to show the general nature of the symptoms and physical signs which may be expected in the course of the disease. I shall supplement them by impressions drawn from other cases which, being imperfect, I shall not mention in detail.

In this paper the so-called granular kidney is regarded as the product of interstitial nephritis in its last stage. In some of the cases in childhood to which reference is made the kidneys in all respects answered to the classical description of small, red, granular or contracted kidney. In others, as in my own, they were only on their way to become granular or contracted. The process is, I believe, the same in all. It consists in small round cell infiltration of the renal stroma, apparently beginning in the cortex, and spreading in the form of bands towards the centre of the organ. It chiefly involves the glomeruli and blood-vessels at first. In time these bands of cellular infiltration become converted into fibroid tissue which contracts and thus causes peculiar distortion and shapelessness of the kidneys. The capsules gradually become adherent, and sometimes the inflammation spreads beyond into the perinephritic cellular tissue, and may involve the suprarenal capsules, perhaps thus causing definite symptoms resembling those of Addison's disease. The entire process is extremely gradual, and affects successive portions of the kidney until the whole is involved, and the organ becomes generally contracted, or granular. Patches of recent cellular infiltration may be seen side by side with contracting areas of fibrosis. The effects on the secreting structures of the kidney are secondary to infiltration, and subsequent contraction of their stroma. The tubules become narrowed or strangulated and may form small cysts. Their epithelium undergoes fatty or granular degeneration. The Malpighian tufts shrink, and are converted into hyaline or amorphous masses, whilst their capsules are thickened. Parenchymatous changes are always less apparent than interstitial. The walls of the blood-vessels share in the general enlargement which affects those of the arterioles throughout the body. I shall refer to this more fully in dealing with cardio-vascular hypertrophy. Finally, the entire process is extremely insidious and generally slow. The duration of the symptoms affords no clue to that of the disease. There are reasons for believing that interstitial nephritis may commence in early childhood, or even infancy, and not prove fatal for many years. The time at which it causes death will depend on the speed and the degree with which successive portions of the kidney become affected; and also, I believe, on the extent to which cardio-vascular compensation occurs and is maintained.[5]

PHYSICAL SIGNS AND SYMPTOMS.

The most striking physical signs which attend the disease are:—1. Wasting. 2. Dryness, absence of perspiration, coarseness, inelasticity, and pigmentation of the skin, together with anæmia. 3. High arterial tension and cardio-vascular hypertrophy.

The chief symptoms are:—1. Cerebral, including headache, vertigo, vomiting, and convulsions. Tetany and visual disturbances, such as amaurosis or diplopia, have been noted and also cerebral hæmorrhage in two cases.[6] 2. Gastro-intestinal, consisting of easily excited attacks of vomiting and diarrhœa, not necessarily uræmic. Sometimes there may be obstinate constipation or constipation alternating with diarrhœa, epigastric or abdominal pain. 3. Urinary symptoms including polyuria, often associated with thirst, and sometimes with enuresis. Low specific gravity of urine, albuminuria, and hæmaturia. 4. Pulmonary symptoms such as dyspnœa, bronchial catarrh, and those of pulmonary œdema have been noted. Asthma as in adults may possibly occur. 5. Cardiac symptoms, such as præcordial pain or distress with dyspnœa may arise. They do not appear to be so marked as in adults. 6. Dropsy is rarely met with in cases of interstitial nephritis. Yet sometimes slight general anasarca may occur, seldom lasting more than a day or two. It usually is noticed in connexion with an attack of headache or vomiting, and is associated with scanty, smoky, and albuminous urine containing blood casts. Such attacks might be considered to mark the onset of the mischief, but the general appearance and condition of the patient show that the disease is of long standing, although the dropsy and hæmaturia have been the first indication of illness.

Wasting.—The patients are generally stunted, undersized, and wizened. The wasting is usually of long standing and often dates from some illness in infancy or early childhood associated with vomiting, diarrhœa, and great prostration. Wasting, when of long standing, is apt to be regarded as constitutional, or as the patients' normal condition. Advice is not sought because they are thin, but because they easily take cold or bronchitis and suspicions of phthisis have been aroused, or on account of headaches with or without attacks of diarrhœa or vomiting. More rarely we see them because they are always thirsty, pass large quantities of urine and are supposed to be diabetics. (Diabetes, by the way, like "consumptive bowels," is more readily suspected by the public than by medical men.) With polyuria and thirst there may be incontinence of urine, and this is the first symptom which has attracted attention. Wasting is from the first associated with a peculiar dryness and deficient perspiration of the skin, which later on becomes inelastic, and when pinched up, tends to remain in folds and wrinkles. This inelasticity is a most unfavourable sign. Dr. Eustace Smith has drawn attention to the condition which he rightly regards as significant of renal mischief in infants and young children. It is also met with in adults who are suffering from interstitial nephritis. Commonly the gums and conjunctivæ are singularly pale, but there is general capillary congestion which produces a dusky flush in the face and masks the anæmia.

Pigmentation.—With dryness, coarseness, absence of perspiration, and eventually inelasticity of the skin there is often pigmentation or discolouration, varying from mere sallowness to marked bronzing usually general in distribution, sometimes intensified in patches. Pigmentation is a physical sign which, although alluded to in text-books, has not, I think, received the attention it deserves. Bartels says: "In this disease [granular nephritis] the skin not infrequently assumes a dirty faded colour." Dickinson mentions that one of his patients exhibited an appearance which he describes as "pallor luteus." Barlow was struck by the "brownish yellow" discolouration of the skin, contrasting with the steely whiteness of the conjunctivæ which his patient presented. My first patient, who died, looked dirty, though not actually so. Her general appearance was that of an anæmic person who had been much browned by the sun. Here and there the skin assumed a purplish hue due to capillary engorgement. Other cases seen since have led me to regard this pigmented appearance as a great aid in the diagnosis of interstitial nephritis. On several occasions I have been led by this alone to test the urine of children and usually it has been found in such cases to be slightly albuminous and of low specific gravity. Further examination has also brought to light other symptoms and signs of the disease. The pigmentation in many respects strongly resembles that of Addison's disease, but it has not been found to affect the mucous membrane, neither have the "sepia spots" and melanosis of old scars, characteristic of Addison's disease, been observed. It is usually more marked about the abdomen and flanks than elsewhere, but sometimes is seen to excess in the folds of the axillæ and groins. Within the last four years I have met with three girls, aged nine, ten, and eleven years respectively, who all showed marked pigmentation of the body generally. In two of them a diagnosis of Addison's disease had been actually given. But in all three it seems more likely that interstitial nephritis was the primary condition, for two of them had fairly well-marked signs of cardio-vascular hypertrophy and slight albuminuria, whilst the urine of the third is habitually of low specific gravity and its amount is considerably above normal. The duration of the pigmentation—eight, ten, and four years—the absence of perspiration and presence of a dry, coarse skin are also against the diagnosis of Addison's disease in all three cases. Two of these are at present under observation; the history of the third cannot, unfortunately, be traced. Such pigmentation occurs in adults also and may lead to confusion.

I have post-mortem notes on two women, both aged thirty-six years, who died in the North-West London Hospital. They were both under the care of my colleague, Dr. Harry Campbell. My notes state that both showed marked general umber-brown discolouration of the skin, not more

[5] The pathology as given above is not in accordance with the more modern views that granular kidney is the product of parenchymatous atrophy rather than of interstitial inflammation. A discussion as to the correctness of either theory would be out of place in a paper which deals with diagnosis and treatment rather than morbid anatomy.

[6] Filatoff records a third in a child aged eleven years. Emmet Holt, Diseases of Infancy, 1897, p. 621.

excessive about the neck, axillæ, and inguinal folds than elsewhere. Both bodies were much emaciated, but not dropsical. The kidneys in both instances showed most advanced granular degeneration. The suprarenal capsules appeared normal in one case, but in the other the right adrenal was firmly adherent to the under surface of the liver. In the latter case the heart showed no signs of hypertrophy, neither were the arteries thickened, but in the former cardio-vascular hypertrophy was very considerable. Dr. Campbell tells me in a letter concerning them: "The first case I was actually inclined to diagnose as Addison's disease on account of the pigmentation, anæmia, prostration, and vomiting (which latter was, as it turned out, uræmic). I did not suspect granular kidney in the second case until the albumin was discovered, for the cardio-vascular changes were not obtrusive. I can recall two other cases of granular kidney recently seen in which the pigmentation was well marked. These patients were well past the middle age, and there could be no mistake about the diagnosis."

I would draw attention to the fact that children often suffer from severe enteritis at the commencement of their troubles. I shall presently mention cases which seem to show that acute interstitial nephritis may occur in infancy with mainly gastro-intestinal symptoms, and shall suggest that this may end in the more chronic varieties of granular kidney.

The cause of pigmentation in interstitial nephritis is sometimes probably interference with the functions of the suprarenal bodies by the morbid processes affecting the adjoining kidneys. It is true that with the exception of Dr. Campbell's case to which I have alluded no mention is made of the suprarenal capsules in the fatal cases which I have collected, and the presumption is that they appeared healthy. But in my own fatal case there was considerable inflammatory matting noticed about the peri-nephritic cellular tissue. It is possible that although the adrenals themselves looked healthy yet their vessels and lymphatics may have been involved in the inflamed tissues around, and thus the organs may have been rendered functionless. Dr. Rolleston[7] suggests a similar explanation of cases of Addison's disease, in which the adrenals have been healthy, whilst the sympathetic or semilunar ganglia have been involved in adhesions or a new growth, such cases having been held to support the sympathetic origin of Addison's disease. Dr. Rolleston's explanation may account for pigmentation in some cases of interstitial nephritis; or it may be that general deterioration of the blood in interstitial nephritis tells on the adrenals as on other organs and interferes with their functions. In cases of long-standing exophthalmic goitre the skin often becomes deeply pigmented as in Addison's disease. In the museum of St. Bartholomew's Hospital there is a coloured picture of a female, labelled "Addison's and Graves's disease." One of the most marked degrees of pigmentation that I have ever seen was in a woman, aged about sixty years, whom I visited in consultation with Dr. Rountree of Camden Town. She was dying from heart failure consequent on Graves's disease of many years' duration. She died shortly afterwards, but unfortunately a post-mortem examination was not allowed. The causation of pigmentation in Graves's disease is as obscure as in interstitial nephritis, pregnancy, and, one may add, in Addison's disease itself. Morbid conditions of the abdominal sympathetic will not alone account for it because they are not constant. Perhaps when we have said that toxæmia is the result of disease affecting the thyroid gland, the suprarenals, and the kidneys, and that such toxæmia in some manner interferes with the disposal of pigment by the "carrier" cells, we have admitted as much as our present knowledge of the subject allows.

The causes of pigmentation cannot be fully discussed here; the point on which stress is laid is that pigmentation practically indistinguishable from that of Addison's disease is a most important diagnostic sign of interstitial nephritis in both old and young, although not existing invariably.

Cardio-vascular conditions.—In all the fatal cases but one marked hypertrophy of the heart was noted; in the remaining one the heart is said to have been found widely dilated after death. Probably the dilatation here was secondary to hypertrophy. In an unfinished case of Dr. Goodhart's it is stated that the heart and vessels were normal, and also in one of Dr. Campbell's cases to which I have alluded. Thickening of the vessels in the kidneys and elsewhere was observed in several of the fatal cases. Though it is not mentioned in all yet it is almost certain that the condition would have been found if looked for. Cardio-vascular hypertrophy is, therefore, in children as in adults, a most useful indication of interstitial nephritis. Increase of pulse-tension during life is not recorded except in my own cases, where it attracted attention from the first. Yet there can be little doubt that when the heart is found hypertrophied and the vessels thick after death there must have been high pulse-tension at one time or another during life. Possibly it escaped observation, as in most of the fatal cases the diagnosis of interstitial nephritis was not completed during life. One's estimation of the hardness of a pulse is apt to depend to some extent on the knowledge that albuminuria is present. If albumin is found the nicety of one's perception appears to be increased, and a pulse is recognised as hard which was previously not accounted so. I do not mean to imply by this that the high tension is imaginary, but that it may be unrecognised unless one is prepared to find it. In young children the pulse-tension may in some cases be difficult to gauge owing to the smallness of the vessel, but, as a rule there is no such difficulty. As regards the physical signs of cardiac hypertrophy, by the time children come under observation, increase in size of the left ventricle is usually obvious; but in earlier stages the hypertrophy is only manifest after repeated examination. It should be remembered that in young children the apex beat is normally nearer the nipple than in adults. Even when increase in cardiac dulness cannot be made out, the heaving, forcible impulse, dull, heavy first sound, and the accentuation or re-duplication of the second sound point to incipient hypertrophy. In later stages temporary bruits are often heard over various parts of the heart. Sometimes they are merely hæmic, but at others they suggest temporary incompetence of the various valves and indicate failure of cardiac compensation.

For practical purposes signs of cardio-vascular hypertrophy may be regarded as constant in children suffering from this disease. But there may be apparent exceptions to this rule. For instance, a heart which is naturally smaller than the average may become very considerably hypertrophied and yet remain well within the limits of normal weight and thickness. I have notes of a necropsy on an adult female whose heart weighed only three ounces. Except that the great vessels looked disproportionately large the organ seemed in every way healthy. Such a heart might have increased its bulk fourfold and yet would not have been regarded as hypertrophied. A similar explanation may apply to cases in which the walls of the vessels do not appear to be unduly thickened.

Absence of dropsy, its causation and connexion with cardio-vascular hypertrophy and high arterial tension.—In all the fatal cases of interstitial nephritis which I have mentioned, with one exception, dropsy was said to be entirely absent; in the exceptional case it only occurred shortly before death and was apparently limited in extent. In an adult one is quite prepared to suspect the existence of nephritis, although there may not be the slightest sign of anasarca. But in a child all will agree that the outward and visible sign of nephritis is dropsy, and if this sign is absent one does not readily think of nephritis, although the symptoms may be precisely similar to those of the adult. Dropsy was absent in all but one of these cases, and it is within the scope of this paper to inquire why. As to the causation of dropsy, it is sufficient to say that the recent researches of Dr. Starling[8] have done much to confirm the view that dropsy depends on (1) difference between intra-capillary and extra-capillary blood pressure; and (2) on increased permeability of the capillary walls. In cardiac dropsy it is probable that increase of intra-capillary blood pressure, due to cardiac incompetence and subsequent venous engorgement, is the prominent factor. In renal dropsy it seems likely that increased permeability of the capillary walls due to lowering of their vitality and nutrition by the circulation of impure blood is the primary cause; whilst if such permeability is increased it is obvious that any excess of intra-capillary pressure will favour transudation or dropsy, and that it will be further favoured by stagnation of blood within the capillaries. To counteract the effects of increased permeability of the capillary walls intra-capillary pressure must therefore be kept low. Intra-capillary blood pressure may be lowered by general constriction of arterioles, the

[7] Goulstonian Lectures (1895), THE LANCET, March 23rd and 30th, 1895.

[8] The Arris and Gale Lectures (1896), THE LANCET, May 9th, 16th, and 23rd, 1896.

result of which will be to deliver less blood in a given time to the capillary area than usual. But such constriction will produce an enormous increase of labour for the heart. If the heart fails to meet it and becomes incompetent or dilated, backward pressure must occur in the veins; this will spread to the capillaries, and, given the fact that the permeability of their walls is increased, one may expect increased transudation or dropsy. Therefore, constriction of the arterioles alone is not sufficient to lower intra-capillary pressure by reducing the blood supply unless the heart remains competent. But, supposing the heart by becoming hypertrophied is able to meet the increased labour thrown upon it by constriction of the arterioles in front, the result will be that the blood supply from the arterioles to the capillaries will be reduced in volume. Its velocity will also be increased, for Bayliss and Starling[9] have shown that the result of general constriction of arterioles is the equivalent of plethora, whilst Cohnheim has demonstrated that in plethora the velocity of the blood is largely increased. It seems reasonable to suppose that transudation through damaged capillary walls will be lessened by the delivery of smaller volumes of blood at a higher rate of speed than normal into the capillary area, and also that stagnation in the capillaries which must naturally favour the occurrence of dropsy will thereby be prevented. In interstitial nephritis constriction of arterioles and increased force of cardiac action undoubtedly exist, and it may be that the absence of dropsy in this disease is due to the increase in velocity and diminution in volume of blood delivered to the capillary area thus produced.

In other words, cardio-vascular hypertrophy and high arterial tension are the direct antagonists of dropsy.[10] The clinical evidence of this is (1) that the initial dropsy of renal disease tends to decrease *pari passu* with increase of pulse tension and hypertrophy of the left ventricle;[11] (2) that if the arterial tension remains low dropsy increases (Samson); and (3) if, whilst pulse tension remains high, the heart does not become hypertrophied but dilated with incompetent valves, dropsy is again the result.

But what are the causes of cardio-vascular hypertrophy itself? The left ventricle enlarges because it has increased work to do owing to obstruction in front. The obstruction must to some extent occur in the capillaries if it be true that their walls are damaged by the circulation of impure blood. This is Dickinson's view. But the late Sir George Johnson always held that the obstruction was due to spasmodic contraction of the muscular walls of the arterioles and not to capillary resistance. It is obvious that such spasmodic contraction would produce high arterial tension and throw increased work on the heart, which accordingly would become hypertrophied. But what is the evidence that the arterioles are in a state of spasmodic contraction in nephritis? It is (1) that high arterial tension can be lowered in early cases where it exists by nitrite of amyl (Sir W. Broadbent); and (2) also that the muscular walls of the arterioles are found hypertrophied after death. This hypermyotrophy can only depend on the constant exercise of the muscular function of arterioles, which is to contract. Discrepancy as to the existence of hypermyotrophy of the arterioles may be explained by the fact that the muscular coats of vessels require prolonged staining before showing their characteristic structure. (For this observation I am indebted to Dr. T. Savill.) Increase of the fibrous tissues of vessels, which is also present but less marked than that of the muscular coats, may perhaps depend on congestion of the vasa vasorum. Few at the present day accept the view of Gull and Sutton that granular kidney is merely a part of a general arterio-capillary fibrosis affecting viscera and vessels alike. On the other hand, it is not disputed that such general arterio-capillary fibrosis may occur as part of senile degeneration. There is, therefore, evidence which warrants the belief that high arterial tension is due largely to muscular contraction of the arterioles, and that this lends both to hypertrophy of the left ventricle and hypertrophy of the muscular arterioles themselves; whilst it has been maintained that muscular contraction of the arterioles combined with increased force of cardiac action will have the effect of delivering small quantities of blood at a higher rate of speed to the capillary area, and thus transudation through unduly permeable capillary walls or dropsy will be lessened and intra-capillary pressure reduced. Thus cardio-vascular hypertrophy is nature's method of relieving and preventing dropsy. When it fails to occur or to be maintained dropsy is the result.

Why is dropsy early and extreme in parenchymatous nephritis, whilst it is late and usually insignificant or absent in interstitial nephritis? I take it that these differences depend chiefly on the natures of the two morbid processes. In parenchymatous nephritis the secreting portions rather than the stroma of the organ are affected, and the whole at once rather than successive portions. This must lead to enormous accumulation of poisons in the blood with corresponding damage to, and increase of permeability of, the capillary walls. But this is not all. High arterial tension prevails as much in parenchymatous as in interstitial nephritis. But in the former the resulting strain on the heart occurs before it has time to acquire sufficient force to meet it. As Sir W. Broadbent has pointed out, the cardiac phenomena of acute parenchymatous nephritis are those of acute dilatation.[12] Hence the resultant dropsy in early parenchymatous nephritis is partly cardiac, as is the case in its later stages. In interstitial nephritis, on the other hand, the secreting structure is only involved slowly, secondarily, and by degrees. Elimination is carried on for a lengthened period whilst polyuria prevails. Yet the blood must be impure and the arterioles resist its passage by becoming constricted. But the resistance is gradual and insidious as is the rest of the morbid process. The heart has time to acquire sufficient strength and becomes by degrees hypertrophied in order to meet the increasing labour thrown upon it. Finally, as in parenchymatous nephritis, the heart gives way, for compensation cannot go on for ever, and dropsy of the true cardiac type is the result.

Summary.—1. Toxæmia is present in all forms of nephritis. 2. The poison irritates and lowers the nutrition, thereby increasing the permeability of the capillary walls. 3. It also causes spasmodic constriction of the arterioles either by direct irritation or through the vaso-motor centres. 4. The result of spasmodic constriction of the arterioles is: (*a*) to reduce the capillary blood supply; and (*b*) to produce hypermyotrophy of the arterioles and usually in time of the heart. 5. If the heart is able to meet the labour thrown upon it, the velocity of the blood stream into the capillaries is increased, whilst its volume is lessened by constriction of the arterioles. These conditions of the circulation will tend to lessen transudation through the capillary walls, lower intra-capillary blood pressure, and therefore control dropsy. 6. If the heart fails to meet the demand, whether in early or later stages of renal disease, dropsy is maintained in the one case and produced in the other.

(*To be continued.*)

[9] Journal of Physiology, April 17th, 1894.

[10] Cf. W. H. Dickinson, Baillie Lectures, THE LANCET, July 20th, 1895, p. 134.

[11] Cf. Proceedings of the Royal Medical and Chirurgical Society, 1892, p. 115, et seq.

THREE CASES ILLUSTRATING THE IMPORTANCE OF A MINOR POINT IN THE ANATOMY OF FEMORAL HERNIA.

BY LEONARD MOLLOY, M.A., M.D. DUB.,
HONORARY SURGEON TO THE BLACKPOOL HOSPITAL.

CASE 1.—The patient was a woman, aged seventy years, suffering from abdominal distress, uncontrollable vomiting, and consequent prostration. In her right groin I found a tumour the size of a pigeon's egg, and this I learned had appeared three days previously during a ride over bad roads in a landau. From the symptoms and the position of the tumour I concluded I had to deal with a strangulated femoral hernia, although on palpation and percussion the swelling did not present quite the usual features. It was not clearly tympanitic and felt doughy and solid over the more prominent portion, but on grasping that part of it which lay deep over the femoral ring a slight impulse could be felt on coughing. Some doubt was cast upon the correctness of the diagnosis by

[12] Transactions of the Royal Medical and Chirurgical Society, 1892, p. 123.

one of the two gentlemen whom I asked to assist me, but feeling confident I was right I decided to chloroform the patient and, if taxis failed, to cut down on the tumour forthwith. On doing this latter the main part of the swelling was seen to consist of an enlarged lymphatic gland, and my doubtful colleague was still more inclined to think I was on the wrong track. However, on drawing the gland aside I was able to display a small, deeply congested knuckle of intestine tightly gripped in the femoral ring; this, after examination, was returned to the abdominal cavity, and the operation was completed in the usual way.

CASE 2.—A woman, aged fifty-three years, had an acutely tender swelling in her right groin, which had appeared a few days previously; that portion of the tumour which was nearest the femoral ring was tympanitic, had a slight impulse on coughing and all the characters of a hernia, but the more prominent and tender portion was felt to be a solid body. Owing to the extreme tenderness reduction of the hernia was impossible without an anæsthetic, but on administering chloroform the bulk of the swelling was made to disappear with a characteristic gurgle, leaving, however, a tumour the size of a walnut still in the groin. On passing the finger underneath and so behind this the dilated femoral canal could be distinctly felt. Rest in bed and the application of anodynes restored the patient to her normal condition.

CASE 3.—A man, while endeavouring to close a heavy sliding door which had jammed, felt a pain in his left groin and a tender swelling appeared there. I saw the patient four days afterwards. He had on the left side over the femoral ring a tumour the size of a large walnut, extremely tender, but the skin over it in nowise inflamed; it was not tympanitic, had no impulse on coughing, and to the touch it appeared solid. It could be lifted away from the deeper structures by pushing the finger behind it, and by this manœuvre the femoral canal could be explored and was found to be distinctly dilated, and on pressing the finger into it, when the patient coughed, a knuckle of intestine could be felt to press into it and to strike against the finger-tip. Rest in bed and the application of belladonna extract and glycerine caused the tenderness to disappear and the tumour to shrink. Twelve years previously this man had been operated upon for a strangulated hernia on the right side. From the appearance of the old operation wound I should judge this hernia to have been femoral.

The interest in the foregoing cases lies in the fact that the disturbing element in the diagnosis in each instance was the enlargement of that lymphatic gland which Quain[1] says is constantly placed in the crural ring, which Gray[2] states occasionally fills up the interval between the femoral vein and the inner wall of the sheath, and by which Ellis[3] says the same interval is filled. With reference to this point Erichsen[4] speaks of the canal as usually containing a gland or two, while Treves[5] draws attention to the fact that an enlarged gland over or about the hernial sac often complicates matters. What the lymph supply of the gland closing the inner compartment of the crural sheath is seems to be uncertain; the efferent vessels of some of the superficial inguinal glands are said to pass through it, but it seems probable that in Cases 1 and 2 the enlargement was due to the irritation set up by the presence of a hernia in the canal. In Case 3 I am unable to account for it, seeing there was no lesion in the region supplying either set of superficial inguinal glands, except by supposing that before I saw the patient the knuckle of intestine which I could feel at the abdominal end of the canal had come down during his violent effort to close the door and given rise to sufficient disturbance of the surrounding tissues to cause the gland to enlarge, but had subsequently spontaneously become reduced, or that as a result of the effort one of the deep muscles in the region supplying the gland had been injured.

Blackpool.

[1] Quain's Anatomy, ninth edition, vol. i., p. 530.
[2] Gray's Anatomy, tenth edition, p. 779.
[3] Ellis's Demonstrations of Anatomy, ninth edition, p. 464.
[4] Erichsen's Science and Art of Surgery, sixth edition, vol. ii., p. 816.
[5] Treves's System of Surgery, vol. ii., p. 726.

THE Manchester Medico-Ethical Association has arranged for a special debate on Hospital Reform, to take place on Friday, March 26th.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

COMPLETE LATERAL DISLOCATION OF FOREARM.

BY EDWARD SUTCLIFF, M.D., C.M. ABERD.

THIS being, I believe, a rare form of injury, the following notes, jotted down at the time, of a case which occurred a short time back in my practice may be of some interest. A stonemason, a strong and muscular man, but of spare habit, slipped and fell heavily on his right elbow and forearm, the inside of the former striking the curbstone. He was brought to my surgery within a very few minutes of the occurrence of the accident and before any swelling of the injured joint had supervened. Owing to this and to the fact that he carried no superfluous flesh the diagnosis was remarkably easy and clear. On examination the forearm was found to be somewhat flexed and semi-pronate, extreme deformity being produced by the excessive widening of the joint. The internal condyle was very prominent, almost protruding through the tightly-stretched skin, and the whole contour of the posterior and inferior portion of the trochlear surface of the humerus could be distinctly mapped out, giving the impression that there was little but skin and fascia between the finger and the surface of the bone. On the outer side of the joint the margin of the great sigmoid cavity was well defined and the fingers could be well dipped into its hollow. On rotating the forearm, which could be readily done to a moderate extent, the head of the radius was felt revolving in the orbicular ligament. By the aid of chloroform, making extension round my knee, and manipulating the joint, reduction was obtained without much difficulty. I had an opportunity of examining the joint a few weeks since, it being then six months after the receipt of the injury, and I found it normal in every respect. Motion was perfect, and the patient declared that he felt no inconvenience whatever in the performance of his accustomed work.

Torrington.

A CASE OF ANGINA LUDOVICI OCCURRING IN THE ACUTE STAGE OF SYPHILIS.

BY P. CLENNELL FENWICK, M.B. LOND., M.R.C.S. ENG., L.R.C.S. LOND.,
LATE SURGEON TO THE NEW ZEALAND SHIPPING COMPANY.

A FIREMAN, aged forty-eight years, was suddenly seized with pain in the head and vomiting, his temperature being 105·6° F., falling that night to 99·8°. There was a well-marked syphilitic rash all over the abdomen and a hard chancre on the penis. The temperature continued hectic till the third day, when the patient was apparently nearly well, complaining only of numbness in the limbs and weakness in the legs. There were no signs of typhoid fever or any pulmonary trouble. On the morning of the ninth day I was called at 7 A.M. by the night watchman, who stated that the patient's face had begun to swell at 5 A.M. I found him almost unrecognisable, the face and neck forming one hard, swollen mass extending from the sternum to the malar bones. There was no fluctuation and no emphysematous crackling in the tissues. The jaw was fixed and the tongue was pressed against the roof of the mouth, both speech and swallowing being impossible. The pulse was 140 and the temperature normal. The neck was packed in ice and stimulants were administered as far as possible. At 9 A.M. the patient was cyanosed, and could scarcely breathe. Tracheotomy was performed with great difficulty owing to great swelling of the tissues and the rolling of the vessel. The operation afforded great relief, but an hour later the increased swelling of the tissues forced the tube out of the trachea, and it was with great difficulty replaced. This accident happened again, and it was then found impossible to replace the tube, but the loss of blood having apparently relieved the œdema and congestion of the

trachea and larynx the patient was able to breathe naturally, though with great difficulty. He finally grew weaker and died at midnight.

The question is, was this a true case of angina Ludovici? I have searched the literature on this subject as far as possible and can find no mention of syphilis as one of the causes of this disease. In this case it was so markedly present that I could not help attributing the angina to this cause. It was quite impossible to make the lateral incisions in the swelling, as some writers recommend, but the median incision for the tracheotomy relieved him greatly. No post-mortem examination was possible. There was no history of insect bite, or wound on the neck, nor had the patient been working in the docks. Any bacteriological examination was of course impossible owing to the absence of staining reagents and even of a microscope.

Harley-street, W.

A CASE OF QUADRUPLETS.

BY EDWIN T. GOODE, L.R.C.S., L.R.C.P. IREL.

THE rarity of the occurrence of quadruple births encourages me to bring before the profession a few details of a case I have just attended. It was unfortunate that I was not called in earlier to the case, but the patient resided in a village two miles away and her mother hoped to be able to manage without the aid of a medical man.

On Jan. 22nd, 1897, the woman gave birth to two children, her mother being in attendance, and as the "afterbirth" did not come away satisfactorily I was sent for the next morning. On my arrival fifteen hours after the birth of the first two children I found the mother considerably blanched from loss of blood, and on examination a bag of membranes presented, which on rupture was followed by the birth of the third child. Again examining a fourth child could be felt, and this was born in due course. There were three distinct placentæ and four cords. The presentations were—the first a vertex, the second a footling, and the last two vertices. The children were all stillborn at between the fifth and sixth months. The commencement of labour was caused by the mother falling down. She has made an uninterrupted recovery. It was her third confinement.

Doncaster.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

POPLITEAL ANEURYSM; LIGATURE OF THE FEMORAL ARTERY; RECOVERY.

(Under the care of Mr. F. PAGE.)

SUCCESSFUL ligature of the femoral artery for the cure of popliteal aneurysm has been recorded so frequently that it requires an explanation when such a case is published at the present day. We publish this one as a means of attracting the attention of our readers to the remarks by Mr. Page on the change in treatment suggested in the work to which he refers. The result of ligation of the artery in Scarpa's triangle is recognised by the profession as so very satisfactory that some good reason for changing the practice must be given. One of our greatest authorities[1] says that "the return of pulsation in the sac after the operation for popliteal aneurysm is by no means of frequent occurrence, yet it has been met with in some instances." This confirms the opinion of Mr. Page and agrees with our experience. We do not think that there is anything like the tendency to abandon this operation to the extent which is suggested, nor do we think it likely that an operation so easily performed as this, and which gives such good results, will be given up without better reasons, for one which is more difficult and involves the application of a ligature at a spot where the presence of the aneurysm may cause serious inconvenience from its encroaching on the area of operation, and where the artery is more likely to be diseased and the anatomical structure of the parts makes the operation more difficult even to the skilled operator.

A man, aged thirty-six years, was admitted on Nov. 21st, 1895, suffering from a large right popliteal aneurysm of some four months' duration. The patient had served in the army and contracted syphilis in 1880. His arteries were very atheromatous and both the aortic and mitral valves were extensively diseased. He complained of severe pain in, and about, the knee. On Nov. 23rd the artery was tied at the apex of Scarpa's triangle with a catgut ligature. The wound healed by first intention. A portion of the skin over the inner side of the great toe sloughed. The patient was discharged cured in January. In June the patient died from heart disease; there was no recurrence of the aneurysm.

Remarks by Mr. PAGE.—On page 659 of the "New System of Surgery," edited by Mr. F. Treves, it is stated: "Failure to cure the aneurysm, or so-called recurrent pulsation, is frequent" after ligature of the femoral artery at the apex of Scarpa's triangle. With all respect I demur to this statement. Mr. Syme, in the days of the septic ligature, tied the artery at the apex of Scarpa's triangle twenty-two times, and in every case the patient was cured. In the Royal Infirmary at Newcastle-upon-Tyne during the last eleven years the femoral artery has been tied at the apex of Scarpa's triangle for popliteal aneurysm twelve times, and all the cases but one were cured. Gangrene occurred in one, but gangrene is due to conditions the opposite of those which give rise to recurrence. If recurrence were frequent one would expect to find the condition dealt with frequently in the various London hospitals, but that does not seem to be the case, judging from the hospital reports. On the contrary, it is altogether exceptional, so far as I can ascertain. I have heard of recurrence after ligature, but in most instances pressure had been previously employed and failed. Mr. Pearce Gould, who writes the article on Aneurysm in Mr. Treves' book, makes the further statement: "Ligature of the highest part of the popliteal artery has been recommended of late, and in practice has been found very successful." I should much like to know the precise grounds upon which the statement that this method of treating popliteal aneurysm has been very successful in practice is based. It would seem to be an unwise thing to depart from a well-tried, simple, and successful operation upon any other than the most substantial grounds.

Cases of Popliteal Aneurysm treated by Ligature of the Femoral Artery during the Years 1885–1895 at the Royal Infirmary, Newcastle-on-Tyne.

No.	Year.	Date.	Age.	Operator.	Result.
1.	1885	Jan. 21st	40	Mr. Page	Cured.
2.	,,	Jan. 31st	28	Mr. Page	Cured.
3.	,,	Oct. 7th	47	Mr. Page	Cured.
4.	1889	March 29th	40	Mr. Page	Cured.
5.	,,	May 14th	30	Mr. Williamson	Cured.
6.	1891	May 2nd	26	Dr. Hume	Cured.
7.	,,	July 2nd	30	Dr. Arnison	Cured.
*8.	1892	March 14th	50	Dr. Hume	Gangrene.
9.	,,	July 1st	28	Mr. Williamson	Cured.
10.	,,	Nov. 26th	35	Mr. Page	Cured.
11.	1893	Jan. 9th	27	Dr. Hume	Cured.
12.	1895	Nov. 23rd	36	Mr. Page	Cured.

* The limb was amputated and the man made a good recovery.

[1] Erichsen: Science and Art of Surgery, tenth edition, vol. ii.

LONDON FEVER HOSPITAL.—The annual meeting of the London Fever Hospital was held on Feb. 19th at the Hotel Victoria, Lord Balfour of Burleigh presiding. The report showed that during the past year 769 patients were admitted, including 637 cases of scarlet fever, 65 of diphtheria, 23 of measles, and 14 of German measles. The accommodation had been so fully occupied that it was necessary to refuse 184 applications for admission.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Surgical Physiology of the Foot.

A MEETING of this society was held on Feb. 23rd, Dr. HOWSHIP DICKINSON, President, being in the chair.

Mr. T. S. ELLIS read a paper on some points in the Surgical Physiology of the Foot. He referred to the view on which he had for many years been insisting—that the plantar arch was formed, was maintained, and, when destroyed, might be restored by renewal, in specially active degree, of the functions of the foot—i.e., by muscular action. Till recently, however, he had been unable to fully explain why the plantar arch was so rarely over-formed as the result of excessive action in the case of stage dancers. Excessive formation did sometimes occur as a morbid condition, as seen in pes cavus or claw-foot. The principal object of the paper was to show that the two features of the deformity which gave the alternative names were due to a common cause. A model in wood with the essential features of the human foot was shown in which elastic cords imitated the muscles which support the arch and act as "formators" of it, and those which control its formation, and act as "limitors." It was shown by this model that the combined flexor brevis and adductor hallucis acted not only (as so-called flexors) to hold down the first phalanx of the great toe, but also as "limitors" of the arch. Removal of cords imitating these muscles produced immediately hollow- *and* claw-foot, and at the same time the head of the metatarsal bone projected into the sole, a condition which in the living subject gives rise to painful callosities. The exaggerated arch was most evident in the middle line, because it was there that the weakened flexor brevis muscle arose. He thought that the condition might arise from a growing boy having boots too short for him, so that he found it more comfortable to walk on tip-toe. In this way the short flexors which normally depressed the arch were relaxed and the bowstring action of the flexor longus was increased. The foot was permanently held in the equinus position and the calf muscles served more and more as ligaments rather than muscles and became wasted. In order to correct the condition a very pronounced lengthening of the tendo Achillis was required, often to the extent of two inches. In the stage dancer the short flexors were specially needed to keep the great toe in a straight line, and these counteracted the excessive influence of the long flexors in tending to increase the arch. The fleshy mass of hypertrophied sole muscle filled up the hollow of the sole and produced an appearance of flattening. To sum up, hollow- or claw-foot was due to persistent action of the long flexor, with failure of the short flexor and adductor, while flat foot was due to failure of muscular action in both groups. Mr. Ellis insisted that the position of the hanging foot at rest was one of inversion, and maintained that there was loss of power and undue strain in walking with the foot everted and urged that the military march should be reformed. He maintained that the small toes even when encased in boots were of great use to break the shock of contact with the ground and to protect their corresponding metatarsal bones from pressure. The position of rest for the great toe was extension, the hallux lying somewhat over the second toe. If it be packed beneath the second toe it moved in a plane for which the joints were not adapted, and grinding of the cartilage and constant irritation were the necessary result. The toe became rigid, and owing to muscular inactivity flat-foot often ensued.

Mr. BARWELL thought some of Mr. Ellis's conclusions were open to controversy. The model, although extremely ingenious, could hardly be taken as representing the actual conditions in the foot. The action of the flexor brevis, with its extensive attachment to bone, could be but inadequately represented by a cord stretched between two points. He had found no tendency to flat-foot in dancers. It was true that the sole was filled up by muscle, but the instep was always high, indicating a good plantar arch. He did not think that a short boot would make a boy walk on tip-toe, but that it would cause crowding of the toes just like a narrow-toed boot.

Mr. DAVIES-COLLEY dissented from the view that the flexor longus threw the foot outwards. With reference to the muscles tending to depress the arch he thought that the muscles attached to the dorsum, especially the tibialis anticus and peroneus tertius and the extensors, were as important as the sole muscles. In some cases of pes cavus he had removed a piece of the tendon of the extensor proprius hallucis and fixed it to the base of the first metatarsal bone.

Mr. ELLIS, in reply, said that the action of the flexor longus hallucis could be demonstrated to throw the ankle outwards by putting the toes together and rising on tiptoe. With regard to the other controverted points he saw no reason to depart from the conclusions to which his investigations had led him.

MEDICAL SOCIETY OF LONDON.

Traumatic Neurasthenia.—Value of the Cystoscope in the Early Diagnosis of Renal Conditions.

A MEETING of this society was held on Feb. 22nd, Mr. C. B. LOCKWOOD, Vice-President, being in the chair.

Mr. VICTOR HORSLEY read a paper on the subject of Traumatic Neurasthenia. He pointed out that the symptoms of traumatic neurasthenia were essentially the same as those of neurasthenia from overwork. The cases fell into two classes—(*a*) those in which the symptoms began acutely and were mixed with general symptoms of concussion, and in which there were possibly some associated small lesions; and (*b*) those which were sub-acute and came on after a distinct interval. In the first group one of the most striking symptoms was the irregular pyrexia which was almost always present. The rises of temperature were often sudden and might go as high as 111° F. In one such case the attacks of pyrexia were accompanied by delirium and hallucinations. The pyrexia differed from that due to coarse cerebral lesions in being at once controlled by sponging. Even after a patient had apparently recovered any nervous shock or excitement might again cause similar attacks of pyrexia. In the second group of cases the latent period was usually about a week, but might be two or three. The symptoms, as pointed out by Dr. Hughlings Jackson, were of two kinds, which often occurred together—viz., those due to diminished functional activity (general weakness, localised paralyses, and anæsthesiæ), and those due to over-action (contractures and pains). In traumatic cases the localised paralyses were usually on the left side and almost always affected the lower limb; but one unusual case was mentioned in which there was paralysis of the muscles of the chest on the left side. One of the most common sites of spasm was the tongue, which in functional hemiplegic cases was usually drawn over to the opposite side, a point of great importance in diagnosis. There were often also contractures of the limbs. Anæsthesia usually began in the upper limb on the post-axial border, a position in which it also occurred, as shown by Dr. Ormerod, in overworked sempstresses. The characteristic sites for pain were: (1) painful pressure sensations at the bregma; (2) shooting occipital pain along the supply of the second cervical root, often accompanied by a clicking sensation; (3) infra-mammary tenderness; (4) tenderness and pain made worse by movement or jarring at the dorso-lumbar junction; and (5) tenderness and aching over the sacrum and posterior superior iliac spine. The knee-jerks were much exaggerated at first, but later diminished and might even be lost. Ankle-clonus might also be present in neurasthenic cases. There was usually increased quantity of urine, with lowered specific gravity. He had never detected sugar or albumin. There was nearly always increased frequency of micturition, but he had never seen retention. Although it was usually easy to detect wilful malingering, it was always difficult to know how far there was unintentional exaggeration as one of the symptoms of the neurasthenia itself, and there was often room for much difference of opinion. In many of the cases recovery was ultimately complete, but there was a great tendency to relapse. The most obstinate symptoms were anæsthesia of the special senses, such as hemianopia, deafness, and loss of tactile localisation. In one case, in which after a blow on the occipital region a patient had left hemianæsthesia and left hemianopia, no lesion could be found when the patient ultimately died. Pain, especially the dorso-lumbar pain, was also very persistent. The most successful

treatment was on the lines of the Weir-Mitchell treatment: isolation, at any rate for the first month; massage, general and local, for six weeks, and over-feeding. Where this treatment could not be employed simple tonics might be given, but the improvement would be much slower. In conclusion Mr. Horsley urged that in all cases of this kind which came to litigation the medical men concerned should always have a consultation beforehand, so as to avoid an unseemly conflict of evidence in the witness box.—Mr. SPENCER WATSON remarked that these symptoms did not occur unless there was neurotic predisposition. He inquired if there were any special changes in the urine during the pyrexial stage.—Dr. CHURTON said that cases of this description were common among miners, and in most of them there had been previous blows on the back from falling coal. He confirmed the statement that the knee-jerks might be lost.

Mr. HURRY FENWICK brought forward a series of twenty-one cases of Nephrectomy with two deaths to demonstrate the value of the cystoscope in detecting early stages of malignant and tuberculous disease of the kidney. He gave two illustrative cases of malignant disease being removed six weeks and three months after the onset of profuse hæmaturia. The disease was localised by seeing through the cystoscope blood issue from one ureter. He referred to cases of calculous pyelitis in which the cystoscope showed pus issuing from one ureter. He advised nephrectomy for tubercle before the stage of sclerosing peri-nephritis had set in, and then only when the lower organs were free from the same disease. If the kidney was densely attached by a thick, firm layer of gelatinous adhesions (a characteristic of a later stage) it would be safer and better to leave it. He believed that those tuberculous kidneys in which the ureters were blocked with tubercle would give the best results in nephrectomy, for the obstructed ureter virtually confines the disease to the kidney in these cases for comparatively long periods of time. When there was at all extensive tuberculous disease of the bladder he thought supra-pubic cystotomy was of little service.—Mr. LOCKWOOD thought that general surgeons were getting to use the cystoscope habitually just as physicians used the ophthalmoscope. He mentioned cases showing its value in indicating the side of the renal disorder. He thought that he had seen cases of tuberculous disease of the bladder relieved by supra-pubic cystotomy. Mr. G. R. TURNER also believed that he had seen good result in one case in which there was a single ulcer, apparently tuberculous.—Mr. HORSLEY said that he had regretted operating on two cases of tuberculous disease of the bladder and thought it was generally inadvisable. He asked whether Mr. Hurry Fenwick found it necessary to make an abdominal incision and introduce his hand for purposes of exploration as recommended by Mr. Knowsley Thornton.—Mr. HURRY FENWICK, in reply, said that single ulcers of the bladder were rarely tuberculous. He had not seen any good from scraping and drainage in any cases that were at all extensive. He considered Mr. Knowsley Thornton's double incision unnecessary.

HARVEIAN SOCIETY OF LONDON.

The Dangers and Diagnosis of Breech Presentation and its Treatment by External Version towards the End of Pregnancy.

A MEETING of this society was held on Feb. 18th, Dr. MILSON, President, being in the chair.

Dr. HERBERT SPENCER read a paper on the Dangers and Diagnosis of Breech Presentation and its Treatment by External Version towards the End of Pregnancy. He stated that since the days of Hippocrates the dangers of birth by the breech or feet had been recognised. He gave statistics showing that from nearly one-fifth to nearly one-half of the children delivered in this manner were stillborn. He discussed the causes of the high rate of mortality and the injuries (fatal and non-fatal) to which the child was exposed in this mode of delivery, and he described in detail the method of diagnosing presentation of the breech by abdominal palpation. Dr. Spencer advocated the abdominal examination of all patients at the seventh month of pregnancy, and the treatment of breech presentation by external version at seven and a half months, followed by the wearing of an abdominal belt. He mentioned six cases which he had treated in this way, and in which the children were born as vertex presentations and survived, and twenty-six cases similarly treated in Dr. Pinard's clinic with one immediate infantile death, two other children subsequently succumbing, and he urged a further trial of this little operation, which was very easy, safe, and painless, and had few contra-indications.

Mr. H. C. PHILLIPS mentioned a case of breech presentation in which there were imperforate anus and hydrocephalus which rendered diagnosis of the presenting part difficult.

Dr. DUTCH suggested that in cases where the cord was short and twisted round the fœtus there might be a risk on manipulation of detaching the placenta, thus exposing the patient to the danger of accidental hæmorrhage.

Dr. COCK mentioned that he had twice performed the operation successfully at the eighth month. He had been led in each case to make an external examination and found that the presentation was a breech one and that the head was against the liver, and that as the uterus contracted the hard head compressed the tender liver against the ribs and caused the considerable pain for which his patients had consulted him. The external version had been of the easiest description and the subsequent presentation at birth had been of the head.

Dr. BOXALL pointed out that in estimating the mortality of breech presentation it was important to bear in mind that frequently some underlying condition existed which favoured presentation by the breech in preference to the vertex. Such, for instance, occurred in minor degrees of contraction of the pelvis, in placenta prævia, and in some cases of fibroid and ovarian tumours, which conditions in themselves tended to increase the mortality apart from the presentation. Dr. Boxall fully endorsed Dr. Spencer's opinion as to the value of systematic examination of the abdomen, not only in breech labours, but also in other obstetric cases, and considered that to obtain the full benefit of such examination it should be undertaken before examination *per vaginam*.

Dr. AMAND ROUTH emphasised Dr. Spencer's method of abdominal palpation by the flat of the hand instead of the finger tips. The hands and the abdominal wall must move together over the fœtus *in utero*. He had recently diagnosed at the eighth month a case of breech presentation with one if not both legs extended. He asked if Dr. Spencer would advise external cephalic version, and if so, how the extension of the legs could be overcome. He congratulated Dr. Spencer on his successful efforts to familiarise the profession with abdominal diagnosis and treatment.

Dr. HANDFIELD-JONES agreed with Dr. Spencer's main contentions, but thought that mortality percentages based on maternity returns were too high.

Dr. GOW quite agreed with Dr. Spencer's suggested method of treatment, although he did not believe that when properly conducted the mortality in breech deliveries was as high as that stated by Dr. Spencer. The chief practical difficulty would be to induce patients to present themselves for examination between the seventh and eighth months of their pregnancies.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.

The Climatic Treatment of Phthisis.

A MEETING of this society was held on Feb. 10th at Limmer's Hotel, Conduit street, W., Dr. MYRTLE being in the chair. Twenty-four new members were admitted to the society.

Dr. W. V. SNOW read a paper on the Climatic Treatment of Phthisis, in which he referred to the value of the climate of South Africa in the interior and the necessity of better accommodation and sanitation and food; the superiority of mountain climates; the value of a voyage up the Nile for the wealthy; the good results of sea voyages; the climate of New Zealand; the mistake so frequently made of sending patients in an advanced stage of the disease to Australia; and the possibility of carrying on the open-air treatment, both in winter and in summer, in England.

Dr. THEODORE WILLIAMS considered that the benefit which sea voyages ought to produce was largely lost on account of the want of exercise, which led patients to gravitate to the smoking-room, and that often became practically a drinking-room. He believed that results as good as, if not better than, those afforded by many foreign

places to which phthisical patients were sent might be obtained by the more thorough employment of the open-air treatment in English resorts.

Dr. BAGSHAWE spoke of the danger arising from subsoil moisture in connexion with some of the resorts in the South of France, where the presence of decaying vegetable matter constituted an additional danger. It was well, therefore, to advise patients to go to modern villas and hotels on the hillsides in those places.

Dr. HERON doubted if an exceptionally large number of bad cases were sent to English health resorts or of good ones abroad. A cold winter climate was undoubtedly the best for young patients who could take active exercise and lead an out-of-door life. He quoted the experience of Hudson Bay life in support of this. Patients, he thought, went to the Riviera, with its delightful climate, to slide down to the grave as quietly and comfortably as they could; he did not think that life there was calculated to cure tuberculosis.

Dr. LAING GORDON gave his experience of the disadvantages to be encountered in the South African resorts, and discouraged the sending of phthisical patients there haphazard and without proper instructions.

LIVERPOOL MEDICAL INSTITUTION.

Operation versus Glasses for Squint.—Litholapaxy in Children.—Tubo-ovarian Abscess.—Fibrinous Rhinitis.—Permanent Cure of Nasal Duct Obstruction.

A MEETING of this society was held on Feb. 11th, Dr. RICHARD CATON, President, being in the chair.

Mr. RICHARD WILLIAMS read a note on the Importance of Treating Squint by Means of Operation. He pointed out that the routine practice of ophthalmic surgeons was to give glasses in cases of squint; his practice was to correct any errors of refraction with glasses in squint cases, but he drew a marked distinction between giving glasses for errors in refraction and giving glasses for squint. He never ordered glasses for the squint itself, but always operated. As a defence of this practice he said that there were many cases of squint in which no errors of refraction could be found. To give glasses in these cases was, he considered useless. He further said that the annoyance of having to wear glasses was greater than the annoyance of a simple operation, which was sure to be successful.—Mr. SHEARS said that in young children with convergent squint, where one eye was markedly defective in vision and in fixation, the majority of surgeons were possibly over cautious in refusing to operate under the age of six years for fear of divergence resulting. When, however, the squint was alternating, and the vision good in each eye, he would hesitate to operate even though the hypermetropia was very small in amount. The immediate operation would avoid the many inconveniences of spectacles, but he had sufficient faith in Donders' theory of squint to first try the effect of glasses.—Mr. EDGAR BROWNE said that to treat all cases of squint by operation was to disregard all the advance of the past few years. Squint was primarily an attempt on the part of the nervous system to compensate for a structural or functional defect in the peripheral sense organ. Cases of concomitant squint presented three stages: (1) the periodic, (2) a period when one eye was definitely selected for fixing and squint apparent but not necessarily permanent, and (3) when the squint had become the position of rest. Cases in the first stage must not be operated on. In the second stage operation might be performed, but many would not need it if sufficient care in treatment could be exercised. In the third all cases must be operated on.

Mr. R. W. MURRAY related five cases of Litholapaxy in Children, the ages of the patients ranging from two years and ten months to twelve years. The results had been extremely satisfactory, and he warmly advocated a crushing rather than a cutting operation for stone in children.—Dr. RAWDON said that his experience of litholapaxy in children was limited to two cases, both little girls, aged five and eight years respectively; both cases were highly successful. He had more experience in lateral lithotomy in children, and had performed the operation sixty-seven times with two deaths. He felt, however, that in a few years the operation recommended by Mr. Murray would come to be regarded as the best general operation for stone in children.—Mr. LARKIN said that he had for some years considered that litholapaxy was the true method of removing stone from the bladder, and that only exceptional circumstances could justify any other operation. It was not a difficult operation when the stone was of the size usually met with in this country and the parts were fairly normal.

Dr. J. E. GEMMELL read notes of a case of Double Tubo-ovarian Abscess in which he had performed abdominal section. The disease had commenced in the Fallopian tube; there was occlusion of the fimbriated end of the tube, as it was glued firmly to the ovary. There was a history of occasional discharge of pus from the uterus, pointing at an attempt at drainage through the uterus.

Dr. HUNT read notes of four cases of Fibrinous Rhinitis to illustrate its relation to diphtheria. In one patient it was followed in three weeks by an attack of true diphtheria; in another it came on a month after faucial diphtheria whilst the paralytic sequelæ were still present; in a third instance two persons living in the same house with the patient were subsequently attacked with diphtheria. He thought the disease was in most cases only a modified form of diphtheria in which the local symptoms were present without the systemic poisoning, for in over 50 per cent. of all cases the Löffler bacillus had been found in the membrane.

Mr. BICKERTON read a paper on the Permanent Relief of Nasal Duct Obstruction. He gave a historical sketch of the treatment of the affection from very early times down to the present date, and described a modification he had made in a certain form of style which could be worn by the patient permanently for the relief of the distressing symptoms.—Mr. SHEARS held the opinion that long-standing obstruction of the nasal duct was incapable of cure in the true sense of the word, but that in a fair proportion of cases treatment by probes (and especially by prolonged irrigation with antiseptics through a hollow tube) so far relieved the symptoms that the fluid in the sac became quite clear, and the running over of tears only took place when the eye was subjected to strong stimulation.—Mr. R. J. HAMILTON thought that there was no cure, only a relief, from the most distressing symptoms by the continuous use of these styles. A patient under his observation kept her nasal duct open by passing a probe herself about once a month, and had been doing so for about fifteen years. He thought many of these chronic cases might be taught this accomplishment without any risk.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Removal of the Uterine Appendages.—Exhibition of Specimen.

A MEETING of this society was held on Feb. 17th, Dr. MUTCH, Vice-president, being in the chair.

Mr CHICKEN opened a discussion on the Indication for and Results of Removal of the Uterine Appendages. He said that this operation should not be undertaken unless there is no possibility of otherwise curing the woman. He thought the conditions under which it might be performed were: (1) whenever such coarse disease exists in ovary or tube so as to destroy entirely their function; (2) where affected by malignant disease; (3) to induce an artificial menopause in certain cases; (4) as a means of preventing conception when the pelvis is contracted; and (5) in certain cases of fibroids of the uterus. He thought the operation should not be performed for simple inflammation of tube or ovary, and he expressed strong disapproval of Tait's dictum, which stated that both ovaries should be removed where only one was diseased. He thought hernia not infrequently followed the operation because the abdomen was opened through the linea alba; he recommended an incision, not median, but through the rectus muscle.—Dr. MICHIE advised the operation for all those cases where the tubes contained pus, as in this event resolution did not take place; also in hydro- and hæmato-salpinx and in tubal gestation the operation should be performed without delay. For the arrest of the growth of myoma of the uterus it should be performed, but in these cases care must be taken to remove all the ovarian tissue. He had undertaken this method of treatment for uterine myomata in about fifty cases, and in all except two had had a favourable result. It should be carried out for

some forms of infantile uterus where intense pain occurred at the menstrual periods. He further drew attention to the frequent presence of the alcoholic habit in persons who suffer from uterine disease and thought that this habit was responsible for some of the failures which were often attributed to the operation.—Dr. TRESIDDER thought there would be a general agreement that the operation was not only justifiable, but should be performed where coarse disease of the ovary or tube existed. He thought where the operation was done for nervous affections, such as hystero-epilepsy, little good resulted; even for uterine fibroids he thought it was still an open question what the nature of the results was. He certainly thought the results generally obtained were not so good as those of Dr. Michie, which gave 96 per cent. favourable. He differed from Dr. Michie that the menopause artificially produced presented no material distinction from that occurring physiologically, as he thought the nervous disturbance in artificial menopause was much more profound, dread of impending evil being a marked feature.—Miss GRAY drew attention to the fact that the effect of the operation was not immediate either in the production of the menopause or in its curative effect; disappointment was often the result of not being aware of this.—Dr. BLURTON also emphasised this fact.—Dr. ROTHERA related a case where the beneficial effects of waiting before resorting early to operation was exemplified, the fibroid sloughing and being expelled. He further related two cases where the operation was a failure. In one the patient was now bedridden; in the other, performed for menorrhagia, no benefit followed. He further thought that the induced menopause differed vastly in its nervous effects from the physiological.—Mr. O'MULLANE and Dr. BOLTON related cases.—Dr. MUTCH agreed with Dr. Michie that alcoholism was responsible for some of the failures of this operation.—Mr. CHICKEN and Dr. MICHIE replied.

Dr. MICHIE showed a Pregnant Uterus that he had removed ten days before affected with myoma which had become impacted in the pelvis. The patient made a good recovery. The operation was performed by the abdominal method and the entire organ was removed.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Porro's Operation.

A MEETING of this society was held on Feb. 11th, the President, Mr. RECKLESS, being in the chair.

Dr. SORLEY related notes of the following cases: (1) Abscess of the Liver; (2) Cancer of the Pleura and Lung; and (3) Concurrent Scarlet and Enteric Fever.—The PRESIDENT, Dr. BURGESS, Mr. LOCKWOOD, and Dr. RICHARDS discussed the cases.

Dr. KEELING related a successful case of Porro's Operation and showed the uterus and ovaries which had been removed. The particulars were as follows. The patient, thirty-five years of age and married for about three years, was a rather small, slim woman, but except being very deaf was in good health and not at all deformed. Her first child was born in January, 1895. Labour was normal and no peculiarity about the os externum or cervix was noticed. The term of her second pregnancy was completed in August, 1896, and on the 23rd of that month she fell in labour. During the previous week she had symptoms of eclampsia and four convulsive fits occurred three days before labour. Relief was obtained by purgatives and bromide and the convulsions ceased. On the day of labour pains began about 7 A.M. and continued through the day. In the afternoon the medical man, a skilful and experienced accoucheur, was summoned. On examination he could find absolutely no trace of the os or cervix. Dr. Martin of Sheffield was sent for, but his examination proved equally fruitless. Towards midnight Dr. Keeling was summoned and he also failed to find any external os. An anæsthetic was then given and the whole hand introduced into the vagina, and at last a dimple surrounded by a slight ridge was made out. This was believed—as it proved correctly—to indicate the position of the os and cervix, and an attempt was made to open the os with a sound, the uterus being steadied from above and pressed down towards the pelvis. This expedient apparently succeeded, and first the tip and then the whole of the forefinger was passed, but it was soon evident that an entrance had been made, not within the cervix, but behind it into the peritoneal cavity. In this emergency it was decided that the safety of the patient would be best consulted by Cæsarean section, and she was carefully moved for this purpose to the Jessop Hospital, a distance of four miles. Consent of the patient and husband being given and the staff assembled, the operation was commenced with the intention of its being limited to Cæsarean section by Sänger's method. The abdominal and uterine incisions were made in the usual way. The placenta was found immediately beneath the uterine wound, and as soon as it was reached the hand was slipped between it and the wall of the uterus and the child seized by the leg. Both child and placenta were extracted without difficulty. Hæmorrhage at this moment was free, but scarcely excessive. The cavity of the cervix was then opened into the vagina and the ovaries excised. Up to this point Cæsarean section only had been contemplated, but the atony of the uterus was so marked and the continuous oozing of blood so great that it was thought better to complete by Porro's method. The remainder of the broad ligament on each side was accordingly secured by fine catgut, then a strong double ligature of the same material was passed through the cervix, each half of which was tied separately, and then the two halves as a whole by another loop of ligature. On each side of the cervix one end of the ligature was left long for after use. The uterus was then cut away obliquely so as to form a front and back flap, the bottom of the cup-shaped wound was scraped, iodoform was freely applied, and the flaps were sewn together. The stump was then drawn into the lower angle of the abdominal wound and secured by the ligatures left for the purpose; these were passed through the parietal peritoneum, but not through the skin. An additional stitch between the parietal peritoneum and the stump was inserted on each side, and in closing the abdominal wound the lowest silkworm suture was also made to take a hold of the peritoneal covering of the stump. The rest of the abdominal wound was closed as in ovariotomy. No drainage was used at first, but a gauze chain was found useful at a later stage. Rigid antiseptic precautions were of course observed throughout. For a few hours after the operation the condition of the patient was very critical. She then rallied and afterwards made an excellent recovery. The temperature never rose higher than 101·2° F. and by the eleventh day it had fallen to normal. As the stump wasted a deep hole formed, from which the discharge was abundant and offensive; the rest of the abdominal wound healed straight away. Two ligatures from the broad ligament (each with a small slough) came away, one on the twenty-first and the other on the twenty-sixth day after operation. The thick ligature round the cervix was not again heard of. The deep sinus at the lower angle of the wound had completely closed seven weeks after the operation and the patient left the hospital a fortnight later. The cicatrix had remained firm, and there was at present no sign of hernial protrusion. Mother and child were quite well. After detailing the case Dr. Keeling briefly discussed the questions of complete occlusion of the os externum in labour, the justifiability of the operation which had been undertaken, the respective merits and applicability of Sänger's Cæsarean section, Porro's operation and laparo-elytrotomy, and defended the method of dealing with the stump which had been employed in this case.—The PRESIDENT and Mr. PYE-SMITH made remarks.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Rapid Absorption of Tuberculous Masses in the Abdomen.—Blockage of the Common Duct by a Gall Stone.—Cerebral Injury.—Implantation Cyst of the Iris.—Exhibition of Cases and Specimens.

A MEETING of this society was held on Feb. 5th, Mr. J. W. TEALE, President, being in the chair.

Dr. CHURTON showed three cases of Rapid Absorption of Tuberculous Masses in the Abdomen. 1. A boy, aged ten years, was admitted into the Leeds Infirmary on Aug. 26th, 1896, with ascites. His parents were very poor. The treatment was by rest, good food, and one grain of iodoform with gentian extract every four hours; the abdomen was painted with tincture of steel. On Sept. 20th the fluid was all gone, but two thick masses remained, one extending from the left

costal margin to the umbilicus, and the other in the right lower epigastrium. On Nov. 12th the size of the mass (which then extended from the left costal margin to a point two and a half inches to the right of the umbilicus and was oblique and curved, with the convexity downwards) was 8 in. by 2 in. by (?) ¾ in. On Feb. 1st, 1897, there was only a very small area of thickening above and to the right of the umbilicus. 2. A woman aged thirty-seven years, was admitted on Aug. 4th, 1896. Her temperature during the first week averaged 98°F. in the morning and 102° in the evening. Similar treatment was followed out as in the first case with the addition of one ounce of quinia mixture (five grains) three times a day. On Sept. 7th the ascites had disappeared. The patient had never looked ill; the disease was localised in the abdomen. She had lived in a damp house on a farm and drank much unboiled milk. On the 12th the patient went home. On Oct. 25th the abdomen began again to enlarge. On Dec. 8th she was re-admitted. On the 12th she was tapped and 440 ounces of serum fluid were withdrawn. The former treatment was resumed. A mass, the size of two small closed hands, in the mid-abdomen was found. By Feb. 6th, 1897, the mass had gradually and entirely disappeared. She took two grains of iodoform and three grains of gentian extract every four hours, and one ounce of quinia mixture (three grains) three times a day during her stay in the hospital. 3. In a man lately under observation, less favourably placed and less healthy, the absoption of a similar mass occupied nearly a year.

The PRESIDENT described a case that had been under his care of a lady, aged seventy years, who after general malaise and colic for a fortnight was laid up with complete jaundice, which was diagnosed as a blockage of the common duct by a Gall Stone. After five weeks, as the general health was giving way, an operation was decided on after a consultation with Mr. Pridgin Teale. On the day it was to be performed the patient begged off, as she was certain some change had taken place and that the gall stone had changed its position. It was decided to wait, therefore, and there was a marked increase of bile in the motion. A fortnight later, after severe rigor, intense pain followed first by local and then general peritonitis set in, and death seemed imminent; but she rallied under opium and the third motion afterwards was full of bile. Unfortunately the one in which it is assumed that the gall stone passed was not examined owing to the critical state of the patient. From that time she made a steady but gradual recovery and is now quite well and walking about out of doors. There was complete blockage for eight weeks and three days.—In the lengthened discussion that took place and which turned on the indications for operative interference in such cases the following gentlemen joined:—Mr. PRIDGIN TEALE, Dr. BARRS, Dr. CHURTON, Dr. GRIFFITH, Dr. GORDON BLACK, and Mr. LITTLEWOOD.

Mr. E. SOLLY read the notes of a case of Cerebral Injury presenting certain unusual features. A lad aged nine years fell from a wall about 8 ft. high on to the ground falling probably on the back of the head. He was able to walk home a distance of about a quarter of a mile without assistance but shortly afterwards became gradually drowsy. Some slight convulsive movements were noticed but unfortunately no definite observation was taken of them. The family medical attendant then arrived and finding the symptoms of coma developing, telegraphed to Mr. Solly to come and bring trephining instruments, as he supposed the case to be one of meningeal hæmorrhage. In the interval of about forty minutes before Mr. Solly's arrival the patient gradually began to show signs of returning consciousness, and all idea of immediate operation was negatived. The patient, after passing through a stage of "cerebral irritation" lasting a few days, made a gradual but steady recovery, and is now quite well and strong, exhibiting no sign of cerebral lesion whatever. Mr. Solly commented on the fact that the supervention of coma after an interval of consciousness following a head injury was generally taken as evidence of meningeal hæmorrhage, and for such trephining was generally held to be the proper treatment with a view of securing the damaged vessel. This case he considered worth quoting as showing that the symptom, at any rate in children, did not point to the absolute necessity of surgical interference.

Dr. WHITEHEAD read notes of a case of Implantation Cyst of the Iris in a man aged twenty-nine years, upon whom iridectomy had been performed in India five months previously. The cyst formed within a period of three months and caused glaucomatous symptoms. Tapping the cyst and removal of a portion of the cyst wall failing to afford relief the eyeball was enucleated. A microscopical examination showed that the cyst was lined with laminated epithelium, and originated in the implantation of a portion of corneal epithelium in the substance of the iris during the performance of the operation of iridectomy.

The following cases and specimens were shown:—

Mr. NUNNELEY: A Case of Acromegaly with Bi-temporal Hemianopsia and Incomplete External Ophthalmoplegia.

Mr. MAYO ROBSON: Patient from whom the whole of the upper jaw and the nose were removed a year previously for Rodent Ulcer.

Dr. BRAITHWAITE: Uterus removed entire for Fibroid Disease.

Dr. BRONNER and Dr. LOCKWOOD: A Case of Cerebral Abscess of aural origin operated on eighteen months previously.

Mr. WARD: (1) Sacculated Aneurysm-like Tumour on Saphena Vein; and (2) Part of Calcified Wall of an old Empyema.

Dr. BARRS: (1) Raynaud's Disease: and (2) Multiple Rheumatic Myositis.

Dr. MANTLE: Heart showing Ulcerative Endocarditis, the patient dying from Embolic Hemiplegia.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases and Specimens.—Auditory Hallucinations.

THE sixth ordinary meeting of this society was held on Feb. 17th, Dr. SHORT being in the chair.

Mr. PROSSER showed a woman, aged seventy years, who for many years had suffered from a Pulsating Tumour in front of the Right Outer Ear. The diagnosis of aneurysm of the internal carotid artery had been made and the right common carotid had been ligatured some time back. The pulsation disappeared after the operation and the swelling decreased, but before very long both re-appeared and have now been stationary for some years. At one time considerable hæmorrhagic oozing occurred from the swelling, but was controlled by the local application of styptics.

Mr. HEATON showed an infant, aged fourteen months, with a Swelling in the Left Side of the Perineum just in front of the anus. The left testis was absent from the scrotum, which latter was undeveloped on that side. The case was an illustration of the somewhat rare deformity of ectopia testis, as distinguished from undescended testis. He proposed to dissect up the organ from its abnormal position and fix it in the scrotum, an operation which he had done with success in a similar case two years ago.

Dr. GANNER showed a Pendulous Polypoid Tumour springing from the wall of the duodenum about five inches below the pylorus. It had dragged the peritoneal coat into the stalk in the form of a narrow funnel about half an inch in depth. The elongations of the tumour were probably due to the intestinal contractions. It was removed in the dissecting-room from the body of a man aged forty-nine years.

Dr. KAUFFMANN showed a Liver containing a solitary Retention Cyst near its Upper Surface. The cyst was limited by a layer of epithelium and the wall showed signs of dissepiments; the contents were about one and a half ounces of thin, blood-stained fluid. It was regarded as a retention cyst due to cicatricial obstruction of part of the bile-carrying apparatus.

Mr. PIETERSEN read a paper on Auditory Hallucinations. After a short review of the psychology of auditory hallucinations Mr. Pietersen referred to their occurrence in mental health and showed that the limit of health might be determined by their effect upon the conduct of the individual. A clinical review followed of auditory hallucinations, their characters, and mode of occurrence. The facial signs of obscure hallucinatory cases were referred to, and stress was laid on the impossibility of giving a definite prognosis in all cases of this sensory disorder.

EDINBURGH OBSTETRICAL SOCIETY.

Exhibition of Specimens.—Pressure in the Growing Pregnant Uterus.

A MEETING of this society was held on Feb. 10th, Dr. MILNE MURRAY and afterwards Dr. BARBOUR, in the absence of the President, being in the chair.

Dr. R. C. BUIST showed a Velamentous Placenta.

Dr. J. W. BALLANTYNE showed: (1) an Anencephalic Fœtus, and (2) a Congenital Fibroma from the Scalp of a new-born Infant, which was about the size of the thumb of the child and was excised a week after birth with a successful result. Microscopically it consisted of sebaceous glands and fibrous tissue.

Dr. MILNE MURRAY showed his modification of the Axis-traction Forceps with improvements in the method of detaching the traction rods and also in the position of the joint of the traction handle.

Dr. MILNE MURRAY also read a paper on Is there a Positive Pressure in the Growing Pregnant Uterus? It was suggested by a discussion at the December meeting of the society on the deviation of the pregnant and puerperal uterus. The physical relation of the growing pregnant uterus might be best realised by regarding it as a sac enclosed within a distensible capsule, which was composed of the abdominal walls, the diaphragm, and the pelvic floor. Assuming the intra-abdominal pressure to be neutral at the commencement of pregnancy, the uterus as it grew would require to push aside or lift up the viscera, and a gradual increase of the intra-abdominal pressure would result. This increase of pressure could only be obviated if the abdominal muscles underwent physiological enlargement to the same extent as the enlargement of the uterus. The anterior walls bulged obviously; and the question was, Did this bulging occur with the same tension as in ordinary circumstances, or during pregnancy was this bulging attended with increase of tension due to increased pressure behind them? That this tension was increased was evident by different facts: the fœtal head in all primiparæ and in many multiparæ was kept in position in the pelvis by the tension of the resisting abdominal muscles; the walls in the majority of cases became thinner as pregnancy advanced; the presence of striæ gravidarum or cracks; the discomfort due to even slight degrees of flatulence in the compressed intestines; the shallowness of the respiration showing the diaphragm was impeded in its action; and the projection of the pelvic floor. Before the commencement of pregnancy the cavity of the uterus was only a potential sac, its walls being in close apposition. With the arrival of the ovum it became an actual cavity, and by the time it had undergone sensible increase of its size the cavity was lined by a closed membranous sac in which its contents lay. Separation of the walls could only be effected by a pressure on the part of the ovum greater than that of the extra-uterine region. The only state by which the walls of the growing uterus could be in the condition of a flaccid sac devoid of positive internal pressure would be if the cavity of the abdomen were opened and the uterine walls grew in area at a rate greater than the development of its contents in bulk. But, as this consideration was absent, it seemed self-evident that a positive pressure must exist in the sac of the ovum, otherwise the growth of the sac against the abdominal pressure would be a physical impossibility. Until recently no one had had any doubt but that the contents of the pregnant uterus filled its cavity and that its walls were in a sense tight over them. Doubt had been raised because it has been observed that the walls of a pregnant uterus removed from the body were loose and flabby; but the walls of such a uterus had lost their vital tone and were, like other dead muscle, relaxed and lengthened. If living voluntary muscle was cut across its ends separated; if a dead muscle was divided no such gaping occurred. The living uterus might be tense while the dead was flaccid. The evidence that seemed to have had most effect in changing the opinion of some had been derived from the observation of frozen sections; but it was of paramount importance in estimating the value of any evidence derived from this source that the tissues were dead and that the muscles, external and internal, voluntary and involuntary, were devitalised and toneless, and a flaccid condition of the uterine sac might well be put down to post-mortem relaxation and to be no sure evidence of the condition which held in the living subject. Frozen sections had been of enormous importance in advancing the knowledge of the anatomy of the pelvic and abdominal organs, but there were limitations to their value. As Dr. Barbour had said: "Great care is required in carrying over into clinical work the results gained from frozen sections. It is always a more or less cogent criticism that in them we are dealing with the dead, not the living, body—with anatomy rather than with physiology; with the machinery rather than with its movements." When a body was being frozen it was most likely placed on its back surrounded by a mass of ice and salt, in which it lay for days or it might be weeks. A certain amount of the freezing mixture was in contact with the skin. There was thus on the outside of the skin, which was a porous septum, a fluid with a high endosmotic equivalent, and inside the skin there was a fluid, like the liquor amnii, with a low endosmotic equivalent. A comparatively rapid flow of fluid from the body must pass into the salt solution, and by the end of the process one was not surprised that the sac of the uterus was flaccid and collapsed. Dr. Murray also referred to the direct evidence of the fact that the growing uterine wall was drawn tight over its contents—or, in other words, that there was a positive intra-uterine pressure—from the condition of the uterus at a Porro's operation, from the result of puncturing the membranes, from the experimental incision of the sac of a rabbit's uterus, and from the tension of the anterior uterine segment with tilting of the os uteri. Dr. Murray illustrated some of the points in the physics of the paper by different experiments on models.

Dr. BARBOUR agreed in opinion with much of the paper, differing only with regard to the question of amount of pressure. The simple question of the weight of the contents of the uterus had to enter into the physics of the matter. The tone of the abdominal walls varied in different patients and at different times of pregnancy; these abdominal walls formed part of the capsule surrounding the uterus and thus varying pressure was exerted on it. He considered that the evidence derived from frozen sections was not fallacious in a high degree, there being little difference in the facts obtained from them and those observed in life.

Dr. R. C. BUIST alluded to the fact that in labour there was a spherical bag of membranes even if no pain was present; the uterine walls in a state of tonic contraction must exert pressure on its contents.

Dr. J. W. BALLANTYNE stated that the evidence obtained from frozen sections was valuable so far as it supported clinical evidence. He differed from Dr. Murray in his opinion of the conditions under which the frozen sections were made. He always wrapped the body in mackintosh, and after some degree of freezing put it into a zinc case and surrounded it with the ice mixture; the results obtained could thus only be affected to a slight degree by the weight of ice or exosmosis.

Dr. HAULTAIN, Dr. ARMOUR, Dr. HAIG FERGUSON, Dr. FORDYCE, and Dr. MCVAIL joined in the discussion.

Dr. MILNE MURRAY, in reply, stated that the results obtained by the study of frozen sections did not determine the small points of physics in the living body. He also alluded to the experiments on the horn of the pregnant uterus in rabbits, which on puncture showed a positive pressure of 1½ in., and to the fact that if the uterine wall happened to be incised over the site of the placenta this would protrude through the wound.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.

General Paralysis of the Insane.—Paralysis of the External Rectus Muscle.—Treatment of Diphtheria by Antitoxin.

A MEETING of this society was held on Feb. 19th, Professor MCCALL ANDERSON being in the chair.

Dr. R. D. HOTCHKIS read notes of a case of General Paralysis of the Insane, and showed microscopic sections of the brain tissue. The patient, a young man aged twenty-five years, manifested at the outset of his illness expansive ideas and delusions, but soon after admission to the asylum he improved so much that this diagnosis was departed from. He gained two stones in weight, and though distinctly weak-minded and unable to follow a continuous train of thought he was free from the mental and paralytic phenomena characteristic of general paralysis. In this condition he remained for ten months and the diagnosis was that of mild dementia. Then he suddenly broke down, general restlessness rapidly passing into acute mania developed, with refusal to take food and general degradation of habits, which continued for six weeks and terminated in exhaustion. There were no congestive attacks and no paralysis, and he recognised his friends twelve hours before death. The post-mortem examination showed the distinctive changes of general paralysis.

Dr. LESLIE BUCHANAN related a case of a woman, aged thirty years, in whom Paralysis of the External Rectus Muscle

of the right eye developed without manifest cause and after persisting some weeks gradually disappeared. Shortly after this an identical experience occurred on the left side. There was no history of syphilis, rheumatism, or hysteria, and the patient has remained quite well and free from all evidence of nervous disease for a period of two years. It was argued that time had established a strong presumption against any organic disease of the central nervous system and that under the circumstances the recurring paralysis must be regarded as a hysterical or functional condition.—Dr. MAITLAND RAMSAY, in discussing the case, insisted upon the importance of recognising paralysis of any of the ocular muscles as frequently an early event in the evolution of structural disease in the central nervous system. The very fact that the paralysis is transitory makes its significance in this respect all the greater.—Professor MCCALL ANDERSON expressed his substantial agreement with this statement.

Dr. WALKER DOWNIE read a paper on the Conditions necessary for Success in the Treatment of Diphtheria by Antitoxin. He discussed these under four heads—viz.: (1) the use of fresh serum, (2) early administration, (3) full dosage, and (4) repetition of the dose as required. Time was often lost in waiting for the result of a bacteriological examination, and similarly the use of too small a dose frequently led to failure. He used 5 c.c. of serum as a first dose or double that quantity if there were evidences of marked toxæmia or of laryngeal obstruction. Dr. Downie also showed the Tonsils removed in consequence of obstinate Mycosis Tonsillaris and exhibited microscopic sections illustrating the keratosis of the tonsillar epithelium.

Reviews and Notices of Books.

Deformities: a Treatise on Orthopædic Surgery, intended for Practitioners and advanced Students. By A. H. TUBBY, M.S. Lond., F.R.C.S. Eng., Assistant Surgeon to, and in charge of the Orthopædic Department, Westminster Hospital; Surgeon to the National Orthopædic Hospital; Surgeon to Out-patients, Evelina Hospital for Sick Children, &c. Illustrated with 15 Plates and 302 Figures. 1896. London: Macmillan and Co. Pp. xxii. and 598. Price 17*s.*

ALTHOUGH it may be urged with a great deal of reason that there is no really natural bond uniting the morbid conditions which are classed as Deformities, yet custom and practical convenience amply justify the practice, and, indeed, several other lesions, such as tuberculous diseases of the bones and joints, might with propriety be included under the same name.

It is only within the last forty or fifty years that the practice of orthopædics has been established on a satisfactory scientific basis, and towards the progress which has been made of recent years all civilised countries have contributed. We are glad to see that Mr. Tubby takes adequate recognition of the very great work in orthopædics which has been done by American surgeons. In fact, it is hardly too much to say that the most striking advances which have been made lately in this department of surgery have emanated from the other side of the Atlantic.

In a volume containing almost 600 pages there is obviously a great deal of scope for controversial statement, but we have found surprisingly little with which we cannot agree. The descriptions are clear and are greatly assisted by the very numerous illustrations that accompany the text; these amount to more than 300 in all, and though of somewhat unequal merit they nearly always demonstrate very clearly the conditions they are intended to portray. The portion of the volume which is on the whole most distinctively the author's is the account which he gives of his work on the reparative processes which take place in tendons after tenotomy. The classical observations of Adams will always remain very valuable, but microscopic methods have in many ways so improved that the questions were well deserving of re-examination. Mr. Tubby has made an extensive series of experiments on the tendo Achillis in rabbits. Tenotomy was performed and the results were carefully examined after various intervals from three days to thirteen months. The conclusions at which he arrived may be summed up as follows:—First, the new tissue is formed by plasma cells, derived in part from the connective tissue spaces of the tendon and in part from the dilated vessels of the inflamed tendon-sheath; secondly, the leucocytes play only a subordinate part, merely forming a pabulum for the development of the plasma cells; thirdly, for rapid union and for subsequent smooth working of the regenerated tendon it is essential that the tendon-sheath be interfered with as little as possible; and fourthly, that tendon is not capable of perfect regeneration after division.

The section devoted to talipes is very complete and occupies over 180 pages. We concur with the author in the preference he expresses for the open operation for section of the sterno-mastoid for torticollis as opposed to subcutaneous tenotomy; with modern asepsis there is practically no increased risk of infection, and the diminution of danger of wounding important structures is very great. Coxa vara has an interesting chapter devoted to it, with some excellent reproductions of photographs. In the prophylaxis of lateral curvature Mr. Tubby insists that great care should be taken to adopt the seat and desk to the child who has to use them, and he points out that a foot-rest is of great importance. Failure in attending to this point, especially in music-stools, is undoubtedly responsible for no small number of the cases of scoliosis, for in all cases where the feet have no resting-place very awkward attitudes have to be adopted merely for the purpose of maintaining the balance. There are a few points to which we are inclined to take exception, but it must be acknowledged that they are all unimportant. On page 19 Petit's triangle is described as being bounded posteriorly by the outer edge of the erector spinæ instead of by the anterior border of the latissimus dorsi. The spelling "rhachitis" cannot be supported by any etymological argument, as the word certainly does not mean "inflammation of the spine." The word was really formed by conferring a pseudo-classical appearance on the English word rickets. In comparing the supra-trochanteric osteotomy (Adams's operation) with the infra-trochanteric method (Gant's operation) the author is inclined to prefer the former, as he considers that by the latter operation a "very ugly angle" is likely to be left, and that non-union is apt to follow. We are inclined to think that these objections are theoretical rather than deduced from the results of operations.

Notes of a hundred cases are given, coming for the most part from Mr. Tubby's own case-books; they add greatly to the interest of the work. A copious index completes the volume. After a careful consideration of this book we feel justified in expressing the opinion that it is one of the most satisfactory and useful works on orthopædics in the English language. The paper and printing are excellent.

Aristotle on Youth and Old Age, Life and Death, and Respiration. Translated, with Introduction and Notes, by W. OGLE, M.A., M.D. Oxon., F.R.C.P. Lond., sometime Fellow of Corpus Christi College, Oxford. Longmans, Green, and Co., London, New York, and Bombay. 1897. Pp. 135.

THE literary members of the medical profession owe a debt of gratitude to Dr. Ogle for his admirable translation of these three little-known tracts of Aristotle as being the thoughts and ideas of a scientific philosopher who, though inaccurate in many ways, yet dominated physiological thought for many centuries after his death. The translation is prefaced by an introduction of some sixty pages wherein Dr. Ogle gives a scholarly and most interesting account of

the general doctrine in physiology held by Aristotle himself, his predecessors and successors, practically down to the end of the eighteenth century. "Life," says Dr. Ogle, "is ascribed by Aristotle to the presence of a soul of whose activity it is the manifestation. There is a soul in all living things ..... not itself corporeal, but yet inseparable from the body." The word translated soul is ψυχή, and must be carefully distinguished from the other word also translated in many instances soul—namely, πνεῦμα. The first word ψυχή means the principle of life, and exists in every animal, including plants; the second word πνεῦμα is applied only to humanity, and, perhaps, would be always better translated spirit, which would avoid confusion. This soul was considered by Aristotle to have its seat in the heart, and heat or fire was the necessary agent of its existence, being "the material substratum in which the soul was incorporate and without which it could not exist." This fire had to be fed by some fuel, and this fuel was supplied by the food. But excess of heat is as fatal to life as loss of heat, and so some provision had to be found for keeping it within bounds. This provision Aristotle finds in respiration for such animals as have lungs and for other animals in the bathing of their gills or the general surface of the body in a medium colder than themselves. He is thus brought to deal with respiration, and to this he devotes, the chief part of his treatise. Shortly, his theory of respiration is as follows. Excess of heat will put a fire out, for if the air be excluded from the embers in a chafing-dish the fire will go out because the air tempers the excess of heat, so that if this tempering be removed the fire is extinguished by its own excess. Dr. Ogle quotes as an illustration of this theory remaining to the present time the popular idea that the sun shining on a fire will put it out. Perhaps a still more striking illustration of the notion that refrigeration was necessary for perfect combustion will be found in the controversy which raged in the early years of this century about the relatives merits of the hot and cold blast in the Scotch iron works. When James Neilson, about 1825, was trying to introduce his new invention of the hot blast he met with the strongest opposition from the iron masters. They argued, with perfect truth, that the furnaces worked much better in winter than in summer, but when they proceeded to find reasons for this fact they went hopelessly astray. Of course, they said, it is colder in winter than in the summer, therefore the colder the air the better the furnace will work; so, arguing on this wholly erroneous theory, they proceeded at great expense to devise means for cooling the air before blowing it in.

To return to Aristotle. The heart was constantly getting hot and had to be cooled; by getting hot it expanded the lungs; when these expanded in rushed the cold air and by cooling the central heat kept it within due bounds. This idea lasted until the middle of the seventeenth century and was upset by Boyle and Haller, the former showing that an animal confined with a limited supply of air died even though this air was kept quite cold, and the latter demonstrating that an animal could live in air at a much higher temperature than that of its own blood.[1] Altogether, the book is a most interesting summary of the various steps by which our present views on the great principles of physiology have been reached, and Dr. Ogle is to be warmly congratulated on the clearness with which he has set them forth.

LIBRARY TABLE.

Sir James Y. Simpson. By EVE BLANTYRE SIMPSON. Famous Scots Series. Edinburgh and London: Oliphant, Anderson, and Ferrier. Post 8vo, pp. 160, price 1*s.* 6*d.*—This is a very interesting and well-written little book, and we congratulate the writer on the way in which she has avoided the pitfalls she mentions in her preface. It is scarcely possible, indeed, to say too much in praise of a man such as Simpson, but it would be easy to cavil at that praise as set forth by a daughter, who naturally starts with a bias in favour of the object of her laudation. There is nothing though in this book that might not have been written by anyone conversant with Simpson's life and work. The book opens with a charming account of Simpson's parentage and childhood. They were passed in a very humble sphere, for his father was the village baker in Bathgate, Linlithgowshire. He lost his mother when only nine years old, and his only sister took her place. His up-bringing was in many ways scarcely such as the modern scientific worker would approve of; many old customs still held sway in the country side. For instance, when a murrain was devastating the cattle his grandfather had buried a cow alive as a sacrifice to the devil, and on buying a new farm a small piece of ground—needless to say, the most unproductive-looking portion—was carefully walled off for the use of the same individual. To pass on. When fourteen years old Simpson entered as a student at Edinburgh University, winning a bursary of £10 per annum. We have not space here to record all his struggles and trials, fought against and overcome with the indomitable perseverance characteristic of his race, for those our readers must search the book itself. Simpson's work is known to all the world, but his personal attraction is not so known. We may quote the following passage, which shows the manner of man he was (pp. 151-2). The incident occurred while he was on a journey. "One bitter winter's morning the train came to a standstill, when snow blocked the way, and while all the passengers, chilled, cross, and hungry, fumed, Sir James, in a long seal-skin surtout a grateful patient had given him, walked up and down to warm himself, for, notwithstanding all his furs, he was cold. He found a third-class carriage of shivering, starved children crying with misery. He got the station master coaxed into making some tea, piled his rug and newspapers upon the little ones, incited others to help, inspired all into more hopeful views of life, till the fire of his presence thawed them into geniality, and when the delayed train reached Edinburgh it was commented on as being the first which had arrived that day not filled with enraged and grumbling passengers. 'It's all that man,' said the guard, pointing to Sir James, who was hurrying off. 'It's a mercy we a' like him and coont it a pleasure to aye find his belongings, or he'd never own a rug or a portmanteau.'" The end of a very noble life came quietly on May 6th, 1870, and he was buried in the new cemetery at Warriston, although a last resting place was offered in Westminster Abbey. We can recommend to our readers this little book, for it is full of interest and charm. There is an interesting specimen of old chemical nomenclature which occurs on pp. 57 and 61, where chloroform is called "*per*chloride of formyl."

A Guide to the Examination in Practical Chemistry for the Conjoint Board. By P. A. E. RICHARDS, F.I.C., F.C.S., Demonstrator of Chemistry and Public Health at the Charing-cross Hospital Medical School, Public Analyst to the parish of St. Martin-in-the-Fields. London: Baillière, Tindall, and Cox. 1896.—We entertain as a rule a strong objection to books dealing only with the synopsis of a given examination, but in this case we may modify that opinion, inasmuch as in the first and third parts of this little work we find a well-prepared and accurate system of procedure laid down for the guidance of the student in detecting simple salts, and in making ordinary chemical preparations. No practical value, except for passing the examination, can be attributed to the three or four pages dealing with

[1] Vide Introduction, p. 51.

organic analysis; but this is of course due to the fact that a few substances only have been included in the synopsis by the authorities who direct the examination at the Board. It seems to us that it would be far better, if any real knowledge of practical organic chemistry were required, that it should be fairly stated, and not limited to odds and ends, such as urea and sugar, oxalates, &c., the composition and properties of which must be studied in practical medicine and physiological chemistry and might well be omitted from this part of the course unless it is taught in some well-defined relation to chemical science. The book is certainly an able guide to the examination.

The Private Sanatoria for Consumptives. By Dr. ARTHUR VON JARUNTOWSKY of Posen. Translated by E. CLIFFORD BEALE, M.A., M.B. Cantab., F.R.C.P. Lond., Physician to the City of London Hospital for Diseases of the Chest, &c. The Rebman Publishing Company. Price 1*s.* 6*d.*—Dr. Beale has done a most useful piece of work by translating this pamphlet. It gives in 46 clearly printed pages the essence of the means used in some of the best-known sanatoria abroad for the treatment of phthisical patients. The value of such sanatoria is only just beginning to be fairly recognised in this country, and the possibilities of the successful development of similar institutions here are, with few exceptions, not recognised at all. In spite of the small size of the book it is full of facts of much usefulness.

Water and Its Purification. By SAMUEL RIDEAL, D.Sc. Lond. London: Crosby Lockwood and Son. 1897.—Dr. Rideal has written this compact volume at an opportune time. There are very few handbooks on this important subject that deal with the various phases of the question right up to the present time, and yet no question has received greater attention and discussion of late than that in connexion with the purity of water supplies. Despite its conveniently small size the book covers the whole ground of recent developments even as far as the now admitted worthlessness of the majority of domestic filters and the value of Dibdin's method of examining with minute exactness the insoluble matter in water, the recent application of which led a few months ago to an unfavourable opinion on the quality of the London supply and the function of the companies' filtering beds. The work is written with singular clearness and freedom from technicalities, the practical side of the question being treated with the same consideration as the theoretical side, including those questions affecting the methods of analysis for determining the fitness of waters for drinking purposes. The last chapter on the Analysis and Interpretation of Results is especially good, summing up the value of both bacteriological and chemical analysis without prejudice for or against the respective merits of these two methods. As a work dealing as clearly as it does with the various ramifications of such an important subject as water and its purification it may be warmly recommended. Local authorities and all those engaged in sanitary affairs, and others interested in water-supply, will read its pages with profit. We have noticed but one slip, and that is in connexion with the quality of Loch Katrine water. It has not, as is stated on page 117, any objectionable action upon lead, and no cases of lead poisoning have ever been traced to the drinking of this water, despite its great purity and softness. Curiously enough the author says as much some pages further on (137).

The Progress of Medical Chemistry. By J. L. W. THUDICHUM, M.D. Giessen, F.R.C.P. Lond. London: Baillière, Tindall, and Cox. 1896. Price 5*s.*—No more forcible argument in favour of the medical student possessing a sound knowledge of chemistry, and more especially of that portion of the subject bearing directly on physiology, pathology, and medical practice, could be advanced than that which is contained in the interesting chapters of the volume before us. The contribution appeals as plainly as anything can appeal for a closer study of and attention to the interesting and very important field of medical chemistry. As might be expected, the bulk of the work is devoted to the chemistry of the urine, but in Chapter xiii. (there are in all seventeen chapters) we come to the discussion of the chemical composition of the brain. This subject has been fiercely debated, and Dr. Thudichum, in recounting the history of the subject, makes some severe remarks upon the methods of the partisans of the protagon hypothesis. This is followed by a chapter on the new organo-therapy. Finally, there is a chapter on "A Shady Side of Biological Literature," in which the author, in a somewhat edifying way, refers to the "blunderings" and "forgeries" which he states characterised certain published results of research. Here also he animadverts on "cooked researches," which he defines as "compounds in which known data are skilfully blended with more or less new matter in such a manner as to make the whole appear as new," and upon "'trimmed researches' which are mostly new data of an inferior kind to which an appearance of greater precision is given by clipping or adding particularly to analytical figures to make them fall in with pre-conceived hypothesis," and so on. It is to be feared that Dr. Thudichum is in many cases correct in what he says in regard to this matter, and he supports it by citing some apparently notorious cases. We welcome the publication of investigations which belong to this really important section of medical science, and of published contributions of this sort there is not an abundance.

Handbook for the Bio-chemical Laboratory. By JOHN A. MANDEL, Professor of Chemistry at the New York College of Veterinary Surgeons. London: Chapman and Hall, Limited. 1896. Price 6*s.* 6*d.*—This is essentially a book for the laboratory bench, containing a description of the methods of preparation of physiological substances, while at the end of the volume will be found numerous tests for various pathological products arranged alphabetically. A book of reference of this kind has long been wanted, as hitherto the laboratory student was compelled to refer to more or less big and bulky works on physiology, in which the practical information and direction of testing he required to know are more or less scattered through the pages of the volumes. The present book facilitates this kind of reference and affords at once that requisite information concerning the processes of preparation of such important bodies as glycogen, inosite, fibrin, nuclein, ptyälin, protagon, urea, and many other physiological products. Those who are engaged in this important branch of study will readily appreciate the value of such a convenient publication.

The Manufacture of Aërated Beverages, Cordials, &c. By W. STEVENSON and R. HOWELL. Fourth Edition, revised and enlarged. Published by the authors at 95A, Southwark-street, S.E. 1896. Price 5*s.*—Primarily, this is a book of receipts and contains also some useful and sound information on the points to be observed for the production of a satisfactory temperance beverage. The book is evidently appreciated by the trade, since it has reached its fourth edition, and much new and valuable matter has been added.

JOURNALS AND REVIEWS.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., and W. F. R. WELDON, F.R.S. Vol. XXXIX., Part 4. January, 1897. London: J. and A. Churchill. Pp. 202. Price 10*s.*—The present part concludes the thirty-ninth volume of this journal. It contains two original and highly interesting articles, the first by Lily Hine, on the Changes in the Cell Organs of Drosera Rotundifolia produced by Feeding with Egg Albumin; the second by J. T. Wilson, Professor of Anatomy,

and J. P. Hill, Demonstrator of Biology in Sydney University, Sydney, New South Wales. The author of the first paper quotes some of the observations of Darwin, Cohn, De Vries, and Gardiner on the effects of feeding the drosera and then proceeds to give the results of her own observations, which were partly performed in Scotland and partly carried out in the physiological laboratory, Oxford. She gives the formulæ for various fixing fluids she has found serviceable and describes in detail the structure of the glands. Well-executed drawings are given which show the microscopical structure presented by unfed leaves and by leaves examined at various periods, varying from one minute to a week, after being fed. The article concludes by stating that an appropriate stimulation of the gland cells of drosera by food leads to the using up of the basophile cytoplasm, which is ultimately represented by a very scanty eosinophilous plasm. The restoration of the cytoplasm is brought about by the nucleus absorbing food material, metabolising it, and then excreting it into the cytoplasm. The reasons that have led her to this conclusion are then given. The article of Professor Wilson and Mr. Hill on the Development and Succession of the Teeth in Perameles, or the Bandicoot, one of the Marsupials, as well as in the Dasyurus, Phascogale, Trichosurus and Macropus. The dentition of these animals has always been held to possess special interest, the authors observe, as they have been considered likely to afford important clues to the phylogenesis of the teeth in mammalia generally. On examination, however, the subject is found to present many difficulties which have led to great differences in the interpretation of the phenomena of dentition in the marsupials generally. After giving in full detail and with continuous criticism the views of other observers, the authors state they are satisfied that the permanent teeth of marsupials are the homologues of the permanent teeth of higher mammals, that the deciduous premolar is a true milk tooth and is not the sole representative of the series to which it belongs, since the so-called prelacteal teeth are in reality milk teeth which have undergone reduction and have well-nigh wholly disappeared under the operation of influences unfavourable to their development; finally, the lingually situated down-growths of the dental lamina by the sides of the developing teeth are not rudimentary enamel germs, but are portions of a quite indifferent "residual dental lamina." The article is illustrated by several plates and many drawings.

The Journal of Physiology. Edited by MICHAEL FOSTER, M.D. Lond., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. xxi., No. 1. London: C. J. Clay and Sons. February, 1897. Price 5s.—The articles contained in this number are:—1. The Oscillations of the Auricular Tonus in the Batrachian Heart, with a Theory on the Function of Sarcoplasma in Muscular Tissue: by Dr. Phil. Bottazzi, of the Physiological Laboratory, Florence. This is an endeavour to explain, amongst other phenomena, the reason of the superposition of two contraction curves caused by two stimuli following each other within a short space of time. The author holds that it is due to the sarcoplasm, which, being in its phase of contraction when the second stimulus comes into action, "supports" the doubly refractive substance during the second contraction, which accordingly rises higher. The evidence for this theory is given at length. 2. The second article is by Mr. C. B. Davenport and Mr. W. B. Cannon of Harvard College, on the Determination of the Direction and Rate of Movement of Organisms by Light. The problem which the authors of this article have attempted to solve is whether the migration of organisms towards or from a source of light is to be accounted for by differences in intensity of light along the path taken or by the direction of the incoming rays, and they believe the latter view to be correct. 3. On Reciprocal Action in the Retina as Studied by Means of Some Rotating Discs, by Dr. C. S. Sherrington, F.R.S. This paper is illustrated by many ingenious modifications of Maxwell's discs. 4. Ingestion and Excretion of Iron in Health, by Dr. Ralph Stockman, and Dr. E. D. W. Greig. The authors show that the amount of iron ingested and egested is very small and can be very accurately determined. 5. On the Mode of Absorption of Fats, by Mr. B. Moon and Mr. D. P. Rockwood.

The Journal of State Medicine. Vol. V., No. 2. London: Baillière, Tindall, and Cox. Price 2s.—The recent experiments in sewage treatment at Exeter form the subject of the first paper in this number of the journal. These experiments by Mr. Donald Cameron, the city surveyor of Exeter, were treated in full in our columns on Dec. 5th, 1896, under the heading of "The Utilisation of Micro-organisms in the Purification of Sewage." Dr. A. Campbell Munro contributes a paper on the Inter-Notification of Infectious Diseases among Local Authorities, in which he discusses the system at present in force in and around Glasgow. Dr. Munro advocates the extension of the system to the whole of Scotland and suggests as possible centres Glasgow, Edinburgh, Dundee, and Inverness. He thinks that until some such system as he sketches is adopted full advantage will not be taken of compulsory notification. Mr. A. B. McDonald, C.E., the city engineer of Glasgow, contributes a paper on Formulæ relating to Capacity, Velocity, Flow, and Discharge of Sewers.

To the *Veterinary Journal and Annals of Comparative Pathology* for February Mr. R. Stewart MacDougall, M.A., B.Sc., contributes an interesting paper on the Bacteria of the Soil, based on the experiments of Professor Nobbe and Dr. Hilltner. This article contains most valuable information as to the conditions necessary for the absorption of nitrogen from the soil and from the atmosphere. Short articles on Gangrenous Dermatitis and Veterinary Education in America, Extracts from Foreign Journals, Notes and News, and reports of the various veterinary societies make up the number.

The Veterinarian for February keeps up the high standard that we are led to expect for the articles in its columns. The first original paper, by Dr. Carlier of the Physiological Laboratory of the University of Edinburgh, gives the commencement of a description of the Pancreas of the Hedgehog during Hibernation. This part of the paper is devoted almost entirely to methods of preparation and to a discussion of the nature of certain portions of the pancreatic cells, but the paper promises to be of high scientific value. Veterinary-Major F. Smith contributes the first part of an interesting account of the Symptoms and Lesions of Anthrax in the Horse. Mr. Dollar has translated Nocard's case of Ulcerating Lymphangitis simulating Glanders-Farcy in the Horse, which appeared in the *Annales de l'Institut Pasteur* towards the end of last year. The interesting points in this case are—(1) the multiplicity and rapidity of formation of the abscesses; (2) the rapid cicatrisation of unhealthy-looking wounds; and (3) the absence of lesions in the lymphatic glands, especially as it was clear that infection took place through the lymphatics. A number of clinical cases are also given. Perhaps the most striking feature in this month's *Veterinarian* is the number of good abstracts included under the Month's Progress. Then follow reviews; an interesting biographical sketch of the veterinary officers of the Board of Agriculture, Mr. Cope and Mr. Duguid, accompanied by exceedingly good photographs of these gentlemen; a pass-list of examinations; and full accounts of the meetings of various veterinary societies and of the Royal College of Veterinary Surgeons. The activity displayed amongst members of the veterinary profession and amongst those who have the conduct of the education of these members gives promise of much valuable work.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 27, 1897.

ON Friday, the 19th inst., there was a large gathering in the theatre of the United Service Institution to listen to a paper read by General R. L. DASHWOOD on the health of our troops in India and at other foreign stations. The paramount subject for consideration at the present time, however, is that affecting the British army in India. The reading of General DASHWOOD'S address was followed by an animated discussion, and the figures which formed the basis of it were sufficiently startling to arrest attention. Some of the speeches were good and pertinent, and among them Sir DONALD STEWART'S; some struck us as either wide of the mark or involving erroneous or doubtful assumptions. There is probably no civilised nation in which there exists a state of things similar to that which obtains with our army in India at the present time. The returns of Continental armies do not show anything approaching the amount of venereal disease that prevails among our troops in that country; and we can quite understand that the extent of the evil is a matter of grave consideration to those responsible for the military efficiency of the British force serving there. It is very important, however, seeing that figures and statistical data are so apt to be misleading to those who are little accustomed to deal with them, that we should not allow ourselves to be diverted from the main point at issue by statistical discussions about figures, ratios, and decimal points. We advert to this because of the confusion that apparently exists in the minds of some writers and speakers. To take an elementary point as an illustration. An admission-rate does not mean that each admission represents a separate and different individual, nor is the ratio of 500 admissions per 1000 per annum the equivalent of 500 men, or half of a regiment 1000 strong, because the same man may be admitted more than once during the year with the same disease, and with the class of disease under consideration this was most probably the case. The public requires to be told authoritatively the exact figures representing the amount of inefficiency caused by these diseases in the British Army in India. We are glad to learn, therefore, from Lord GEORGE HAMILTON, the Secretary of State for India, that a Departmental Committee had been appointed under the presidency of Lord ONSLOW, of which Sir JAMES PEILE, Member of the Council of India, Surgeon-Major-General TAYLOR of the Army Medical Staff, and Surgeon-Colonel J. RICHARDSON, a retired officer of the Indian Medical Service, are the members, to inquire into, and report upon, the actual state of the army in India in this respect. The report of that committee may be confidently expected shortly, if it has not already been published, and there will then be no longer any room for cavil or doubt on the subject.

But statistics cannot, after all, give any adequate measure of the extent of an evil of this nature. An individual contracts small-pox, scarlet fever, or other infectious fever; he lives or dies, and there is an end of it. He is legally compelled to remain isolated during the attack and if he recovers he returns to his family or occupation when he is no longer a source of danger to others. But with a syphilitic infection the case is far otherwise and far worse. No statement about the quantity, or even the severe or virulent quality, of the poison covers the subject; a constitutional taint has been acquired of the most chronic and insidious kind, from which the patient may never recover, and in many cases the sequels of the infection, from its initial stage to its remotest consequences, make up a terrible medical history; nor is the individual sufferer the only victim of the infection, for it may, and frequently does, involve the innocent and the unborn. These facts are so well known to the medical profession that the bare statement of them amounts to a platitude. We endeavour to limit the spread of infectious fevers on the grounds of public health and public policy. Why should we not, then, deal with this disease as we do with other infectious diseases, in which the reasons for doing so are less numerous and far less imperative? As regards the cruel results of our negligence in India in this respect and the virulent nature of the poison, Mr. H. W. WILSON, M.P., and others interested in the subject, may determine these for themselves by a visit to Netley.

But it may be said that the compulsory Lock Hospital system as it was tried in India proved an inadequate measure and failed to accomplish all, or anything like all, that was expected from it. Still, we have now had proof that it did exercise a repressive influence, especially in checking the increasing prevalence of this disease. Without going into the exact measure of this influence in figures, in order to avoid entering upon any contentious matter, this fact remains and cannot be gainsaid. But we agree in thinking that the mere return to the cantonment lock hospital system as it was worked in the past would be an inadequate way of dealing with the evil. We do not at all desire to discount or minimise the difficulties in the way of dealing with the subject, but as far as India is concerned it calls for serious and honest consideration. We are confronted, let it be remembered, with two questions—the safety of the empire and the welfare of future generations. What is required to be done now is just that which an intelligent exercise of common sense—and it may be added common justice to our short service army in India—would dictate, namely, to ask those best acquainted with all the present conditions of that country to formulate some scheme after due inquiry by which they would propose to deal with the subject as a whole. We are glad to notice that there is a growing desire on the part of people who are not faddists to give the Government of India a free hand in this matter. Among the number of officials and others in that country—men of the highest character and capacity with general and local, as well as military and medical, experience to guide them—it seems ridiculous to

suppose that there are none who can be relied on to suggest measures for dealing with a growing evil the gravity of which they all recognise.

ALTHOUGH Lord CROMER'S annual report on the finances, administration, and condition of Egypt is published this year somewhat earlier than usual, it nevertheless contains the usual amount of interesting matter, expressed in his customary forcible and concise language. As a diplomatist the British Consul-General admittedly occupies the first rank, but no one can find fault with the lucidity and straightforwardness of his declarations; and in the present case it is not too much to say that within the moderate compass of twenty-seven pages everything of importance connected with our protectorate is clearly and adequately dealt with. Finance, being the foundation of all administration, naturally comes first, but we can only give a hasty glance at this portion of the subject. The system of furnishing the accounts hitherto in force, being calculated to cause misapprehension as to the amount of money at the disposal of the Treasury authorities, has been amended, and in future only the actual sum which the Egyptian Government is at liberty to employ will be shown as surplus. This change is, however, merely one of form. "The substantial facts connected with the financial situation of the Egyptian Treasury remain unchanged." According to the estimates for last year the probable excess of revenue over expenditure was set down at £E17,000 only, but as a matter of fact on Dec. 31st the savings under this head were found to amount to £E316,000. This, of course, would have been a handsome balance out of a total of ten millions, but, unfortunately, it did not in reality exist. The Soudan expenditure had not been included in the accounts, and there were, "moreover, further liabilities, amounting in all to about £E500,000" which will have to be made good. Instead of holding an available cash surplus the Egyptian Treasury is consequently in debt to the extent of £E780,000. It is true on the other hand, that the Commissioners of the Caisse de la Dette are in possession of upwards of £5,700,000 sterling, this enormous accumulation being solely due to the reforms that have been instituted under English guidance; but, as Lord CROMER has often explained, the funds controlled under international arrangement are practically out of reach so far as local needs are concerned. With the finances of the country in this condition it is vain to hope for sanitary reform on anything like an adequate scale. The Consul-General's arguments in this connexion are, unfortunately, irrefutable. Commencing by quoting ROGERS Pasha that—"There is but one satisfactory way to safeguard a country against cholera, and that is to put it in such a sanitary condition that, even if introduced, the disease will not find a favourable soil for its development," Lord CROMER goes on to observe—"There can be no doubt of the truth of these remarks. It is, however, the misfortune of the sanitary reformer that the sums of money required to execute his very necessary reforms are large. ..... Amongst the objects which most nearly concern the general welfare of Egypt it cannot be doubted that the re-conquest of some portion, at all events, of the Soudan takes a very high place. It is to the accomplishment of this object that the attention of the Egyptian Government must, for the time being, be mainly directed. More than this, the development of the system of irrigation should not be long delayed, more especially as the returns to be obtained from money spent on irrigation will certainly in the end provide funds for expenditure in other directions. No Government, and certainly not the semi-internationalized Government of Egypt, can afford to embark at once and at the same moment in a number of expensive and difficult operations. I do not doubt that the day of the Egyptian sanitary reformer will come, but under the circumstances to which I alluded above, I fear, though I say it with regret, that some little while must yet elapse before the question of improved sanitation in Egypt can be taken seriously in hand."

Although it has been found necessary on financial grounds to allow the larger issues connected with the improved sanitation of the country, including the sewerage of Cairo and other large towns, to stand aside for the moment, it must not be supposed that all sanitary progress is in abeyance. On the contrary, several minor improvements of considerable importance have been made. Until a few years ago the mosque latrines were allowed to drain into the nearest water-supply, but in 1892 a law was passed under which power was conferred on the Minister of the Interior to close all establishments of this description which were pronounced to be dangerous to public health. The number of mosques dealt with last year in virtue of this law was 167. Again, in January, 1894, a long-considered law was passed allowing the sanitary authorities to cause the transfer of cemeteries whenever the adoption of such a measure was deemed necessary for the public weal. In 1896 the number so transferred was 179. Needless to add that these reforms are of primary importance from a hygienic point of view, and although they both deal with subjects upon which Mahommedan opinion is naturally somewhat sensitive, it is extremely satisfactory to find them progressing steadily without exciting the slightest ill-will or opposition on the part of the population. In addition to the foregoing another highly important sanitary innovation is mentioned by Lord CROMER. In 1895 water of apparently good quality was found near Tantah at about seventy-five feet below the surface. This water has now been pronounced by a competent authority to be of the best possible quality for human consumption, being entirely free from bacteria of any kind. A well is consequently being sunk for the supply of the town, and it is hoped that the pumps will be erected, and the pipes for distribution laid, during the course of the ensuing summer. It is impossible to exaggerate the importance of this new departure, for no hygienic boon can surpass a pure and plentiful water-supply. Experiments regarding the subsoil water are also to be undertaken at Zagazig, as well as in several other towns, both of Upper and Lower Egypt. With regard to new constructions Lord CROMER informs us that during the year one hospital, five disinfecting stations, five slaughter-houses and a hygienic institute were erected. The alterations at the Kasr-el-Aini Hospital at Cairo are also approaching completion and will probably be finished next March. The total cost of this work is £E22,000, of which £E5800 were

expended in 1896. Further, we find that ten new dispensaries have been opened in the provinces and that up to the end of October 292,000 persons were successfully vaccinated, the lymph for 40,000 of them being obtained from the local vaccine institute.

On the whole Lord CROMER'S record indicates anything but hygienic stagnation and Egyptian sanitarians have no cause to be downhearted. Everything comes to the man who knows how to wait. The chief authority in the land is fully impressed with the importance of sanitary reform, and as soon as the requisite money is available it will doubtless be freely accorded.

LAST week ought not to be without its influence in the history of vaccination; indeed, it might not inaptly be termed "Vaccination week." On Feb. 16th an able paper by Mr. NOEL HUMPHREYS was read at the Royal Statistical Society on English Vaccination and Small-pox Statistics, and on Feb. 19th there was read at the Epidemiological Society a most exhaustive paper dealing with the Dissentients' Statements in the Report of the Royal Commission on Vaccination. The writer of this paper was Dr. MCVAIL, whose knowledge of, and methods of handling, small-pox questions are unsurpassed, and we should like to see a copy of this crushing reply to the anti-vaccinationists placed in the hands of every Member of Parliament and every public vaccinator. On the same day, too—but at an earlier hour—a discussion took place at the Society of Medical Officers of Health upon the paper which Dr. BOND of Gloucester recently read. These discussions should end in some practical good and in recommendations which will strengthen the hands of our legislators in guarding this country against the ravages of epidemic small-pox. Mr. HUMPHREYS has clearly but little respect for the recommendations of the Royal Commissioners, "who conclude a report teeming with evidence as to the value of vaccination by recommending a course of action which would practically make the compulsory clauses a dead letter without repealing them." He obviously sees that it is to re-vaccination we must look if there is to be any relaxation whatever as to primary vaccination in this country. The Epidemiological Society are evidently of a similar way of thinking, and they have passed a resolution which will, we imagine, be presented to Parliament, strongly advocating that if the recommendations of the Commission as to primary vaccination be adopted re-vaccination should be placed on practically the same footing. We expect, too, that the Society of Medical Officers of Health will have little doubt as to the necessity for advising re-vaccination. If the two societies here referred to are practically unanimous in their opinion as to re-vaccination the legislature will be incurring a very grave responsibility should it disregard such an expression.

At the present crisis—for it is a crisis—there is one object that the medical profession must keep steadily in view, and that is re-vaccination. If, as seems not unlikely, the recommendations of the Commission with regard to primary vaccination become law, and owing to postponements and general laxity there grows up all over the country, instead of, as at present, in a few centres only, a mass of unprotected infants, it is very necessary that some compensating influence should be at once introduced, and that influence must be re-vaccination carried out through the agency of our educational system. Re-vaccination is necessary to protect the public against small-pox, and it is the only course which will carry conviction to the minds of the less educated electorate. The masses who are influenced by such anti-vaccination clap-trap as was heard last week from Mr. MILNES at the Royal Statistical Society are unable to discriminate between vaccination and re-vaccination, and the arguments of the anti-vaccinationists obtain an easy ascendancy. So long as a large number of vaccinated persons are found in our small-pox hospitals, so long will the ignorant masses refuse to believe in the efficacy of vaccination, as illustrated by primary vaccination; but when by the use of re-vaccination at, say, ten years of age we prevent the primarily vaccinated from becoming inmates of our hospitals we shall then have furnished an argument which will be clearly understood by the people. If we fail to insist upon practically universal re-vaccination, while still allowing the conscience clause of the Commissioners to be operative, we shall, in spite of all our efforts as to isolation, bring primary vaccination more and more into discredit until the people who govern this country will be so discontented with it as to insist upon the complete removal of even the machinery of vaccination. The agitators who have led the anti-vaccination campaign are men of energy, of ability, and above all, of ambition, and they will continue their work. Let not, therefore, the medical profession be led away by any red herring of "sanitation," whether as an adjunct to, or a substitute for, re-vaccination. The anti-vaccinationists are but too anxious to lead us away on this scent, as was clearly evident at the debate on Feb. 16th on Mr. HUMPHREYS' paper. The point at issue now is the value of *re-vaccination*, and it is to be hoped that the medical profession will recognise and avoid the false trails laid by the anti-vaccinationists and their friends. Let us extend isolation accommodation by every means in our power, but let us at once limit its requirements within the bounds of practicability by a well-considered system of re-vaccination. No one who is familiar with the difficulties of sanitary administration can believe for one moment that isolation accommodation for small-pox alone can ever be provided in advance or at the time of an outbreak sufficient to cope with small-pox of the type which prevailed at Gloucester. It is this variation in type and infectivity which is the keynote to this question of isolation. At Leicester the type was mild and apparently not of a high order of infectivity, but even there, with the much-vaunted sanitary organisation and the defective hospital accommodation of that town, there was much chaos. The hospital apparently spread the disease, in spite of the fact that the town council pretended to have a perfect sanitary organisation. If the suggestions of the Commission that vaccination be performed indiscriminately by all medical men, and that the age of moderate compulsion be postponed is acted upon, we shall have a large number of children imperfectly protected with but one small mark. This it appears to us is inevitable, and we believe it would be the conscientious opinion of the vast majority of public vaccinators and vaccination officers throughout the country. Under these

circumstances there is but one effective course open, and that is to compensate for indifferent primary vaccination by a system of re-vaccination of children before they cease attending the elementary schools.

We are fully aware that the political and social exigencies of the situation must decide exactly what form legislation should take, but it is nevertheless the serious moral duty of the medical profession to state plainly and with no uncertain voice what is necessary to control small-pox and to prevent it from steadily reverting to what it was before the days of JENNER.

Annotations.

"Ne quid nimis."

THE NINTH INTERNATIONAL CONGRESS OF HYGIENE.

IT will be remembered that the Eighth International Congress of Hygiene and Demography, which met at Budapest in 1894, accepted the invitation of the Spanish delegation to hold the next Congress at Madrid in 1897. We regret to state, however, that it is almost certain that this Congress will be postponed. The most ardent partisans and efficient organisers of these congresses are undoubtedly the French sanitary reformers and notably the members of the Society of Public Medicine and Professional Hygiene. This society has consequently become a sort of international link between various organisations of sanitary reformers in different countries. The organisers of the Spanish Congress have therefore communicated with the French Society of Professional Hygiene and at first suggested that the Congress should be held this autumn. The date chosen clashed, however, with the period of the medical examinations held in France. As the students who obtain their diplomas are exempted from full military service the examinations take place earlier than was formerly the case, so that the candidates may know the result before the usual time for joining their regiments. Were the Congress to be held at the date first mentioned none of the French medical men engaged on the examination boards could attend. Many of the most distinguished and prominent French delegates would have to be absent. This difficulty was explained to the Spanish organisers, and they were requested, if possible, to alter the date. Their reply went a good deal further than the altering of the date, for they pointed out that Spain was at the present moment suffering terribly from the strain caused by two great colonial wars. At the same time, the Spanish press alluded to the Congress in very doubtful terms, and it seemed as if, at least for the moment, the task of holding the Congress was beyond the power and capacity of its organisers. There was also this difficulty, that the climate of Madrid is too hot in summer and far from agreeable in winter. The choice of suitable seasons is limited to the spring and late autumn. In the face of these hesitations and difficulties the French have proposed to their Spanish colleagues that the Congress should be postponed till Easter next year. At no time of the year is Spain so pleasant and so interesting as at Easter, and to postpone the Congress till that date would involve a delay of not more than about six months. To this it may be objected that, though Spain is near to France, it is far removed from most other countries, and as the Easter holidays are of short duration many delegates of the more distant nationalities may not have time to go so far. Then, again, it is unfortunately not at all certain that the political situation in Spain will have very materially improved by Easter, 1898. In that event, there is reason to fear that the Congress may collapse altogether. Luckily, we may take it as certain that though no vote has been given, no invitation issued, and no opinion expressed save in private conversations, the Congress will meet in Paris during the Universal Exhibition of 1900. A great European war alone would prevent this happy consummation. At the same time this would imply a lapse of six years between the holding of the seventh and eighth congresses, and such a delay cannot be viewed as otherwise than most injurious to the cause of international sanitary progress. It confirms once again the opinion we energetically expressed during the International Congresses of Hygiene held in London in 1891 and in Budapest in 1894. We then maintained that the congresses had become utterly unmanageable. It was possible to control the earlier congresses. Some 500 delegates, representing about twenty nationalities, can be suitably entertained and their discussions brought to a practical issue. NOW, however, that these congresses are attended by something like 3000 delegates, the number of towns in Europe that possess adequate halls or assembly rooms and sufficient wealth and accommodation to receive hospitably and with credit to themselves so vast a gathering is very limited. It will not be surprising if, in their present distress, our Spanish colleagues find the task beyond their strength. But it is precisely in such countries as Spain, where sanitary reform has not made much progress, that the leading hygienists of the world should gather together and, by their presence, stimulate the movement. This, however, can only be done when alterations have been introduced in the management of the congresses which will reduce the expense and the number of delegates.

ITALY AND THE PLAGUE.

OUR Romec orrespondent writes:—Touched at many points by Indian traffic—abounding in *entrepôts* of travel between the great British dependency and Europe—Italy is, more than any other Continental Power, exposed to the risk of contagion from the pestis bubonica; but what is she doing in self-defence? Holding meetings of her Consiglio Superiore di Sanità; giving hospitality to the International Conference at Venice; issuing orders for the prohibition of suspected ships from her ports; and little or nothing more. Compare her inaction or inertia with the conduct of France, which is much less exposed to the danger, and what do we find? At the Pasteur Institute in Paris there are already 100 horses "immunised" and capable of furnishing the "serum anti-pestiferum" in ample quantity Italy, on the other hand, has no such precautionary energy to show. Not that her medical men are idle in the matter. They are constantly appealing to the Government to initiate the French example and enlightening the public as to the safeguard it may possess in presence of the danger. But, as usual, the profession in Italy is far ahead of the administrative or municipal authorities, and has to gain the ear of one or other only by informing the public and raising the *vox populi* for sound hygiene. Italian medical schools number no more able pathologist and sanitarian than Dr. Guido Banti, Professor of Pathological Anatomy in the "Istituto di Studi Superiori" of Florence, and in a communication addressed not so much *ad clerum* as *ad populum* he puts the country in possession of facts to which the State cannot long be indifferent. Sero-therapy, he maintains, can cope successfully with the plague if properly and opportunely applied; nor is the "serum anti-pestiferum" difficult to be had. Inject under the skin of a horse a certain quantity of pestiferous culture and at the point of inoculation the tissues get presently inflamed. For some days the animal is in fever, but this having run its course it gets well again. Repeat the injection with a greate

quantity of the culture and the same phenomena are presented once more. Still repeating it, we find the blood of the animal has acquired special properties. It is bled and the blood is allowed to coagulate in vessels, separating into two parts the red coagulum and a liquid, transparent and yellowish, which is the serum wanted. This is a veritable antitoxin for the plague. Inoculate a few milligrammes of it in a rat and then infect the animal with the "cultura pestifera." Its health is unimpaired. Infect with the same culture another rat which previously has not been treated with the serum and it dies invariably. Take a rat already suffering from the plague and inoculate it with the serum and it almost invariably recovers. Such, briefly stated, is the practice of Yersin, who in twenty-six subjects ill from the plague has achieved by it twenty-four cures—the two who died having been treated too late. In a disease which numbers 90 per cent. of fatalities the Yersin practice is, indeed, a boon which Professor Banti and his brethren do well to bring before the lay public with a view to its being pressed upon the State. Thanks to the same enlightened action of the profession the public are taking a less superstitious view of sanitary cordons and such protective measures. In the recent epidemics of cholera, says Professor Banti, those measures were useless if not positively harmful. But plague is different from cholera, as in this connexion he proceeds to show. In 1815 it appeared at Noia in the Abbruzzi, and a military cordon was at once drawn around the city and rigorously maintained. "Il male si spanse ove era nato" (The disease was extinguished where it was born). Again, in 1878-79 the plague ravaged the provinces of Astrakhan in Russia, and again the same measures, severely enforced, circumscribed and choked it. Why so? Because, replies Professor Banti, the bacilli of plague are extremely delicate bacteria, dying easily and easily losing their virulence, not holding out against desiccation—in a word, "they are micro-organisms even more fragile than the vibrios of cholera." Rigidly practised, therefore, such measures can protect the country from the intrusion of plague. Again, even if it has effected an entrance, Italy (though in a less degree than France) is not the Italy of "sixty years since"; she has shared in the modern movement of hygiene, public and personal, and is *pro tanto* protected against a malady which, under insanitary conditions, reaps its thousands. For plague propagates itself neither through the air nor the water and the bacteria which produce it are easily destructible—they can, for instance, be prevented from contaminating the soil, that indispensable condition for the development of plague. A truce, then, to the fumigations, inspired by panic, at frontier stations. Suspected cases, at once isolated, but not in "lazzaretti," and subjected for a few days to medical surveillance, are excluded from all possibility of diffusing the contagion; and if the malady declares itself in its true colours there is always the "serum anti-pestiferum" to combat it. But no time must be lost by the State in providing the protective measures, on the one hand, and the antitoxin, in sufficient quantity, on the other. It has had ample warning from medical authority already. All the greater must be its responsibility if, in the light of such warning, it adheres to its favourite maxim, "inertia sapientia," from which Italy has suffered so heavily in the past.

CORONER AND MEDICAL MAN.

IN THE LANCET of Feb. 20th we had occasion to comment upon a regrettable incident that occurred at an inquest, and from the reports before us we considered that the action of the medical man was consistent with both the spirit and the letter of the law. It is now our duty to draw attention to a conflict between a coroner and medical man in which other issues were raised. An inquest was recently held at Grays by the deputy coroner touching the death of an infant aged five months. Deceased had suffered from "discharge from the head during the few days previous to its death." On Feb. 5th the child was left in bed by the mother apparently asleep. The bedclothes were clear of the face. Shortly afterwards it was noticed that something was wrong and Dr. Snell was sent for, but before his arrival the child was dead. The report of the inquest relates that Dr. Snell stated in his evidence that "he had not the slightest information as to whether the child died a natural death or the reverse; and at the request of the father he made a post-mortem examination and found the cause of death to be asphyxia." When asked the cause of death Dr. Snell refused to answer on the ground that the coroner had not issued an order for a post-mortem examination, and that he should not divulge the secrets obtained by a necropsy privately paid for by the parents. That an inquest was necessary in this case there can be no doubt. That a necropsy was desirable seems probable, but upon the coroner was cast the duty to determine these points. We have frequently asserted that where the cause of death cannot be determined beyond reasonable doubt from the general and medical evidence a post-mortem examination should be made. The coroner, acting within his discretion, thought it was not called for and declined to make an order. In the first place Dr. Snell was clearly in the wrong. From his own evidence it is obvious that he could not give a certificate of the cause of death, and hence it follows that the body passed into the possession of the coroner, and to make a necropsy without an order was a mistake. The fourth section of the 6 and 7 Will., c. 89, provides that "no fee or remuneration shall be paid to any medical practitioner for the performance of any post-mortem examination which may be instituted without the previous direction of the coroner." It is obvious that Dr. Snell could not legally claim a fee for what he had done without official authority. Could he then be compelled to state the result of his examination? The question is open to argument, but on the whole we are of opinion that, bound by his oath to give in evidence concerning the death "the truth, the *whole truth*, and nothing but the truth," he could not on the ground of professional secrecy decline to divulge the knowledge he had acquired at the post-mortem examination. We are glad to learn that a more conciliatory attitude was assumed towards the close of the inquest and that the coroner eventually made the order claimed by Dr. Snell. It is not our desire to criticise unduly the procedure adopted by coroners, who have frequently a difficult duty to perform, being exposed to the charge of carelessness and parsimony on the one hand and to undue prodigality with the ratepayers' money on the other. After an impartial consideration of the facts we cannot escape the conclusion that Dr. Snell, finding he had overstepped the line of prudence in making a post-mortem examination without an order from the coroner, might have avoided a conflict by timely compromise.

AN UNPLEASANT MISTAKE.

To fondly nurture an egg which only results in the hatching of an ungrateful and venomous reptile is a favourite figure in the pages of fiction and romance, but the figure was almost literally realised in the circumstances of a legal action reported this week. A woman ate what she thought were sweets, when they proved to be those "eggs" which incubate rapidly into a "Pharaoh's serpent" on applying a light. It appears that the plaintiff, a confectioner, purchased from the defendants a number of farthing packets, one of which she sold to a child. The child, however, brought it back, as luckily her father had tasted the contents of the packet and wisely expressed the opinion that they were nasty. The lady confectioner, however, anxious to show

that she sold innocuous things, ate one herself, regarding it as a sweet, with the result that she was taken very ill and was medically attended for several weeks. This was the ground of the action, and very justifiable ground too. Unless the confectioner's business was of a mixed kind it is inconceivable that sulpho-cyanide of mercury pills, of which the "eggs" are composed, should be sent to a dealer who sells sweets. Judge Lushington decided that the negligence was on the part of the defendant and not of the plaintiff, and he gave judgment for the latter for the full amount claimed (£50). Sulpho-cyanide of mercury does not appear to be a very powerful poison, and the quantity in each "egg" is stated to be somewhat over a grain. Its poisonous properties may be referred to the mercury rather than to the cyanogen in its composition. On applying a light, however, the vapours given off are very decidedly mercurial, which fact alone suggests that some measure of restriction should be imposed upon the sale of these apparently innocent "eggs."

PROCEDURE UNDER THE SALE OF FOOD AND DRUGS ACT, 1875.

HOPES have been held out that when a number of matters of greater (?) importance than the health of the people shall have been satisfactorily disposed of, the attention of Parliament will be directed to a revision of the laws dealing with the adulteration of food, which have been practically untouched for over twenty years. The Act of 1875 is in many respects open to amendment, especially as to the inadequacy of the penalties for repeated offences, which, as experience has amply shown, instead of acting as deterrents, too often amount to no more than a small tax on enormous illicit profits, and the difficulties often found in obtaining convictions or in reaching the real offender, while instances of hardship are not altogether unknown. But the most serious defect is undoubtedly in the procedure enjoined for obtaining samples, which is uncertain and haphazard, and, indeed, demoralising to all parties. A consciously fraudulent dealer soon learns to recognise as a suspicious customer an inspector, policeman, or other officer or servant of the sanitary authority, and even a woman or child put forward by the inspector waiting outside. The probability of such person being served with an adulterated article is small, although a large business may be done in such goods under other circumstances, and the subterfuges, or, in plain language, the lies, to which a clever and successful inspector is driven to resort are by no means creditable to the law, while often serving to evoke sympathy with the accused, whom an astute counsel may easily represent as the victim of a mean conspiracy. The procedure, too, is applicable to the retail trade only and cannot be brought to bear on the wholesale dealer or manufacturer, who does not sell his goods in small quantities and to all customers over the counter; the only way in which such offenders can be reached being by a further action entered against him by the retailer, and not even then when the latter was a party to the fraud by buying at a price he knew to be incompatible with the purity of the article and of course without a warranty. We would call the attention of those on whom the drafting of a new Bill may devolve to the procedure under the Italian Public Health Act, although we have reason to believe that its provisions are by no means as strictly enforced as they are wisely designed, though this is doubtless the fault of the local authorities and their officials, and not of the able framers of a comprehensive and highly scientific piece of legislation By it the medical officer of health, accompanied, if he prefer, by the public analyst, is empowered to enter any shop, warehouse, or factory, wholesale or retail, for the preparation or sale of any articles of food or drugs, and at his leisure to inspect the entire stock, selecting and taking samples, with prescribed precautions for identification, for examination or analysis. Every element of chance and possibility of evasion is thus precluded, everything is open and fair to all parties, and the opportunity afforded of reaching the wholesale dealer directly is really a protection to the small tradesman, who is as often deserving of pity as of blame.

"SEAMEN'S HOSPITALS."

THE litigation concerning the testamentary intentions of Mr. W. F. Waller of Gravesend, under which a bequest for "Seamen's hospitals" was made to the acting Lord Mayor, is now at an end, and the bank shares—the subject of the bequest—have been transferred to his lordship. The will gives the Lord Mayor absolute discretion in deciding what is a "seamen's hospital," the only condition imposed by the testator being that the money should be applied "for the benefit of such hospitals or hospital for seamen in some or one of the cities or counties which border on the River Thames in England, as he may think fit." The legacy, after payment of legacy duty, will amount to about £9250. Any hospitals for seamen claiming to come within the words of the bequest should send in particulars of their claim to the City Solicitor.

THE PATHOLOGY AND THERAPEUTICS OF SCURVY.

IN our issue of Feb. 13th we referred to Dr. Nansen's experiences with regard to scurvy. Not a single case occurred during the whole time that the expedition was away although the food necessarily consisted very largely of preserved meats. Dr. Torup, Professor of Physiology at the University of Christiania, was of opinion that if meat was badly preserved certain poisons allied to the ptomaines were produced which caused scurvy and consequently great care was exercised in preparing food-stuffs for Dr. Nansen's expedition, with the result already stated. Especially interesting in this connexion is the article recently published by Dr. A. E. Wright, Professor of Pathology at the Army Medical School, Netley. He points out that our knowledge of scurvy is incomplete, inasmuch as it does not furnish us with any explanation of the fact that a regimen consisting entirely of preserved meats and cereals, or of either of these separately, induces the symptoms of scurvy. According to Dr. Nansen's experience, however, this statement must be modified, the word "improperly" being inserted before "preserved." Dr. Wright refers to experiments made by Walther under Schmiedeberg's directions. These experimenters had in view the object of determining the effect of administering mineral acids to animals. The results varied with different animals. In the herbivora there is no special provision for the neutralisation of acids, and consequently rabbits speedily succumb to "acid intoxication" when free acids are administered. This is in conformity with the fact that these animals, so long as they feed exclusively upon herbage, have no need for any such provision, seeing that they are feeding upon alkaline food-stuffs which continually replenish the blood with alkaline salts. In the carnivora there exists a very effectual provision for neutralising acid by means of the waste ammonia of the body, and consequently a dog, for example, bears up perfectly well against even a considerable acid ingestion. Contrary to what happens in the rabbit, the ingested acid does not in the dog either rob the blood of its alkaline salts or diminish its coagulability. Man occupies with respect to his power of neutralising acid a position which is intermediate between that of the dog and the rabbit. He is, therefore, able to bear up without

injury against a moderate degree of acid intoxication. If he is plied with acids beyond a certain point the alkalinity and coagulability of his blood will diminish and will finally succumb to the acid intoxication. Dr. Wright suggests that our next step, after we have thoroughly digested these facts, must be to consider carefully what would inevitably happen if this process of setting off the alkalies of our vegetable food against the acids of our animal food were to be forcibly interrupted by the omission of all fresh vegetables and fruits from our dietary. It is obvious to reflection that under these conditions we should inevitably lapse into a condition of acid intoxication. But, again, experience shows that it is precisely under these conditions that we lapse into a condition of scurvy. We may, therefore, at least provisionally conclude that scurvy is a condition of acid intoxication. This theory is supported by therapeutical considerations—namely, the successful treatment of scurvy by fresh vegetables and lime juice. But the recent experiences of Arctic explorers add another important fact—namely, the treatment and prophylaxis of scurvy by administration of blood or of fresh meat with the blood in it. We have consequently to examine this new and important clinical fact and to see whether it can be explained upon the theory that scurvy is an acid intoxication. Dr. Wright does not hesitate to reply to this question with an emphatic affirmative, for he shows that not only is blood an alkaline food-stuff, but that it is comparable in its yield of alkaline salts to lemon and orange juice. We thus see, says Dr. Wright, that the acid intoxication theory of scurvy furnishes us with a complete explanation of the fact that these explorers remained perfectly free from scurvy although they fed on an exclusively animal dietary, for those who have heard or read Dr. Nansen's lectures will remember that bear's blood and fresh flesh were frequently partaken of. This, however, was not constantly the case, and no doubt Dr. Torup's theory and the consequent care expended in preserving the meats had much to do with the immunity from scurvy enjoyed by Dr. Nansen and his companions.

PREVENTIVE MEDICINE AND GEOGRAPHY IN THE "NINETEENTH CENTURY."

THE question as to the expediency or desirability from a professional standpoint of a medical man writing upon medical subjects in the lay journals is a question which must be decided individually and with due regard perhaps to the exact nature of the subject treated of. The diffusion, however, of obsolete opinions or of opinions averse to the best considered practices of the present time cannot be a matter of indifference to the medical profession, nor can errors of elementary geography be altogether ignored in discussions relative to the distribution or progress of any given disease. In the current number of the *Nineteenth Century* is an article on Plague to which the writer must have devoted considerable labour. We read, however, with some astonishment the following sentence: "In China the plague raged from Singapore to Shanghai and Hong-Kong from 1892 to 1896, whence it is supposed to have been carried in bales of cotton to Bombay, where the present outbreak is assuming such grave proportions." As to the conveyance of plague through the agency of cotton bales we may have something to say in another issue, but the position of Singapore is a question which has much disturbed us. We had no notion that this port had been removed to China or that the Chinese frontier had been so extended as to embrace it. Under considerations as to the distribution of plague amongst animals we are told that the cat seems rarely to suffer—an exemption for which its "natural cleanliness" is offered as an explanation. Quarantine, Dr. Lubbock tells us, undoubtedly prevents the importation of plague; but surely numerous instances could be given to show that quarantine has in the past frequently failed in such prevention. The most remarkable portion of the article is, however, that which relates to preventive measures. Most of us have read how in the great plague of London the invaded houses were shut up and the healthy confined with the sick, but it was hardly to be expected that a medical man, even through a lay journal, should in these days advise "isolation of the affected person by closure of the house in which he lives, or, if this is impossible, by placing every suspected case in a special and isolated hospital." It will be noted that the closure of the affected house is the procedure to which preference is given. Science, we are told, "has within recent years taught us the nature of plague." Has it? Dr. Lubbock reposes but little faith in Yersin's serum treatment, since he observes that "medical treatment appears to have little, if any, influence upon the progress of the disease."

A CRUSADE AGAINST DIRTY HOUSES IN BRIGHTON.

UNDER the ægis of the Brighton town council Dr. Newsholme is commencing a new and rigorous crusade—this time against dirty and overcrowded houses. To this cause he attributes the excessive death-rates of certain wards, four of them being 23·2, 22·1, 19·4, and 18·7 respectively, as against 13·9 only in the rest of the borough. Especially is this noticed in the mortality from phthisis, chest complaints, and measles. Dr. Newsholme makes allowances for the accompanying poverty and excessive drinking, and goes on to point out that his present powers of reaching the former evils are dilatory, the compliance temporary and partial, and the evil recurrent. A considerable portion of the offenders are foreigners and he asks for special by-laws. He gives, chapter and verse, the ground for his grumbles—the offending streets and areas and individual cases. He wishes to bring these sub-let houses to the level of common lodging-houses, and he desires to have all the powers under section 90 of the Public Health Act, 1875, which the corporation does not possess under private Acts, for dealing with houses let in lodgings. These, he says, will enable them to reach and partially remedy some of the evils they cannot reach by sanitary inspections. He speaks of the all-round improvement of the last nine years in structural arrangements and adds that these new by-laws are needed to get at the evils for which the tenants are responsible.

A REMARKABLE CASE.

THE *Morning Post* of the 22nd inst. records under the above heading a case with regard to which an inquest was held by Dr. Wynn Westcott. The facts were then stated to have been as follows. The patient's husband went to work at 7.30 A.M., his wife then appearing to be in her usual health. When he came back to breakfast at 9 o'clock he found his wife lying dead on the bed, and the body of a child on the floor. Although there was a woman in the next room no sound was heard during his absence. The husband gave evidence that he had no idea his wife was pregnant and, also, that he did not think she knew it herself. On this the coroner remarked that the case was the most remarkable on record. We may say that the woman's death was due to hæmorrhage, and that the child, who is described as having been fully developed, died from suffocation. The case is an interesting and remarkable one, but is far from being unprecedented. As regards unconsciousness of advanced pregnancy in *unmarried* women, though their statements must obviously be accepted

with reserve, it seems to have been established that when intercourse has taken place under such circumstances the occurrence of pregnancy appears to the woman to be impossible and she may naturally and in good faith attribute her symptoms to disease rather than to pregnancy. Coming now to the case of a married woman, the probability of her remaining unconscious of her condition in advanced pregnancy is much less, but there is also generally more reason for accepting her statement as true. That a married woman may remain ignorant of her condition up to the time of full term labour is established by Dr. Tanner's case, quoted by Guy and Ferrier, of a woman, aged forty-two years, and three years married, who menstruated scantily for five or six months, and then menstruation ceased for nine months. She was taken in labour and delivered of a mature female child by instruments. Both parents are said to have been anxious to have children, but the woman had no idea she was pregnant and could scarcely believe not only the fact of the pregnancy, but that she had been in labour for ten hours. Another case, the Hawkins divorce case, also quoted by Guy and Ferrier, shows that those about the patient, even her husband sleeping with her till within five minutes of her delivery, may remain ignorant of the pregnancy. In that case the Lord Chancellor was convinced that the petitioner (the husband) had remained ignorant of his wife's condition even in the circumstances above stated. Presumably, in the case on which an inquest has just been held, the husband had been sleeping with his wife till within an hour or so of her confinement, yet he said he had no idea of her condition, and there seems no reason, such as might have been present in the Hawkins case, for doubting the truth of his statement. The present case is, therefore, extremely interesting; it establishes still more clearly than before the possibility of ignorance of pregnancy existing on the part both of the woman and of her husband up till the very last moment.

MEDICAL POLITICS IN AUSTRIA.

OUR readers will have noticed in the letters of our Vienna correspondent how many of the questions which agitate the profession in England do so as much or more in countries where it is more severely regulated by law than is the case here. Not the least interesting part of his communication in THE LANCET of Feb. 20th is the account of the Austrian medical chambers, which are nineteen in number and scattered through all parts of that country. They cannot be called medical councils. At least, they do not discharge the functions in regard to medical education and registration which our General Medical Council discharges. But they have considerable powers of an ethical kind. Each medical man is required to report himself, with various particulars, to the chamber of the particular district in which he resides. The chambers are not bound too closely or hampered, as our General Medical Council sometimes seems to be, by the hard terms of an Act of Parliament, but can discuss matters relating to the general interests of the profession. They are expected to uphold its privileges, and the courts of law are entitled to ask them for the expression of opinion. Questions of honour and ethics are not decided by the chamber, but by a council of honour composed of from three to seven members. To crown all, the principle of Direct Representation is in full force. The chambers are elected by the medical men of the province or district. It is complained that the powers of the chambers are limited. But there is a power of imposing fines not exceeding £20 on medical men for professional misbehaviour which might well be a very valuable means of bringing erring brethren to better ways, and more merciful than the system of erasure. We have remarked in a previous number on the grave evils in Austria connected with a wholesale State system of insurance against sickness. Such a system means inevitably a cheap system of medical attendance. Hitherto in Germany and in Austria the system has been confined to the working-class; but it is proposed to extend it to employers and tradesmen. So strong is the feeling against such action by the Government that an unprecedentedly large meeting of medical men from all parts of Vienna, numbering a thousand, has been held to protest against it. It is pitiable when a strong Government, which is exacting in its educational demands, interferes in the domain of private practice and caters for those who are quite capable of taking care of themselves. The system threatens to ruin private practice altogether, and we sincerely urge our brethren in Austria to resist it in every possible way. But it is not the State alone that injures the profession. Its own members are scarcely less to blame for joining medical associations which confound the poor and the well-to-do and use methods of low competition which are as inconsistent with the welfare of the patient as with the dignity of the medical practitioner. Dr. Scholz referred to cases in which the practitioner received a penny a visit. Surely the end of such methods must be the rapid degradation of the profession. When Dr. Scholz recommends as a remedy the employment of every man by the State he probably means that the poor for whom the State provides attendance should have a choice of the medical men. Apart from the poor, the more free medical practice is from State control, and the more private and personal the relation between the medical man and his patient the better. The evils so vividly described are to be met by strong organisation in the profession and by a powerful and united protest from all the organisations of the profession to the Government.

THE ENDEMIC FEVER OF THE MEDITERRANEAN.

WE have received a copy of a paper by Surgeon-Captain M. L. Hughes, of the Army Medical Staff, which was read before the Royal Medical and Chirurgical Society in April last and reprinted from the volume of the society's Transactions. As the subject is one of considerable interest, about which a good deal has been written from time to time, we may very briefly call attention to it. The first accurate description of the fever of the Mediterranean, says the writer, was published by Dr. Marston while serving as an army surgeon in Malta in 1861, and since that time it has been written upon by numerous medical officers and others, ending with the discovery in 1887 by Surgeon-Major Bruce of a causal micro-organism. The disease has a wider geography than that implied in its name, for there is reason to believe that the same fever exists on the borders of the Red Sea and probably elsewhere. Surgeon-Captain Hughes describes its symptomatology under three separate groups, the malignant or fatal type, the undulatory, and the intermittent type. He points out its special symptoms, its differential diagnosis from typhoid and other forms of fever, its pathological anatomy, founded on the reports of sixty post-mortem examinations at thirteen of which he was present, and its bacteriology, based upon thirteen cases in which a micro-organism was found by him similar to that described by Surgeon-Major Bruce. The fever commonly runs a very variable but protracted course, and is often complicated with, or followed by, various nervous, rheumatic, or glandular affections, and does not respond to any specific treatment. In fatal cases there is no lesion of Peyer's glands to be discovered. It is often curiously localised to certain rooms in buildings or to certain households and seems greatly to depend upon causes of insanitation—fæcal contamination of soil and air, with warmth and moisture and a drying soil, and insufficient superficial space

or ventilation. Change from an enervating Mediterranean climate to this country is generally necessary and always desirable during the warm weather in severe or protracted cases, although it may be preferable for certain cases to remain in the Mediterranean during the winter months in order to avoid the cold of this country at that season.

THE CROONIAN LECTURER AT THE ROYAL SOCIETY.

THE Council of the Royal Society has invited Dr. Sherrington, F.R.S., Holt Professor of Physiology in University College, Liverpool, to deliver its Croonian Lecture this year. The lecture will be given in April and the subject will be the Spinal Cord and Reflex Actions. The official recognition thus extended to Professor Sherrington's work is of a particularly complimentary character inasmuch as it is the custom of the society to invite a foreign *savant* to deliver the Croonian Lecture.

STIVEN *v.* WELSFORD.

WITH reference to our article upon this interesting case it has been represented to us that we have done the defendant an injustice by making it appear as though he had forced the matter into court and had been vindictive in his method of defence. We do not think that any passages in our article bear out such constructions, but we are happy to say that we had no intention of making either suggestion. We are informed that Dr. Welsford was from the first willing to refer differences between Dr. Stiven and himself to medical arbitration, feeling that the issues could be better dealt with by a scientific tribunal.

AFFECTIONS OF THE CAUDA EQUINA.

IN a recent number of the *Archives de Neurologie* there is an abstract of an important lecture on this subject by Professor Raymond. The lecture appeared at length in the *Nouvelle Iconographie de la Salpêtrière*. It commences with a reference to the anatomical relations of the nerves of the cauda and to the muscles and sensory areas which are supplied by them, and two cases are related in which the symptoms briefly were a paralysis, incomplete and limited to certain regions, a similarly circumscribed cutaneous impairment, and interference with micturition and defecation. Certain additional phenomena are also referred to, such as trophic disturbances, sexual impairment, modification of the reflexes, and altered electrical reactions. In regard to sensory changes in such cases the pain is usually situated in the sacral region, radiating into the lower limbs. It is intermittent as a rule, but has not usually the shooting character of the pains of tabes. The anæsthesia is constant, circumscribed, usually symmetrical, and as a rule involves the vesical and rectal mucous membranes and the perineal and pudendal regions, or it may also affect the lower limbs in different ways. Its distribution in the limbs gives an indication as to the roots which are implicated in the disease. Various forms of paræsthesiæ are also present. The motor troubles comprise paralysis and atrophy of certain groups of muscles in the lower limbs, the distribution of the paralysis indicating the nerves affected. Incoördination is unusual as a symptom, although slight unsteadiness is not uncommon. Genito-urinary troubles are always present—i.e., incontinence or retention of urine, and also sexual incompetence. The affections of the cauda equina are either tumours or inflammation. The latter may be of the substance of the conus or nerves or of the meninges, and may be either idiopathic or the result of traumatism, and the treatment to be pursued is either medical or surgical. The medical treatment will be determined by the general conditions affecting inflammations of the spinal cord, and if the diagnosis of tumour can be definitely or even probably determined surgical interference may be successful. More than one case is now on record in which a tumour has been removed from this region. The lecture forms an excellent *résumé* of the symptomatology of this condition, and the two cases related are interesting and illustrative.

THE QUEEN'S COMMEMORATION IN BRISTOL.

BRISTOL is setting a good example in the art of fitly commemorating the notable reign of Her Majesty. At an influential meeting on Monday, presided over by the Mayor, Mr. R. H. Symes, it was proposed, on the motion of Mr. Joseph Storrs Fry, seconded by Sir Charles D. Cave, as a fitting expression of thankfulness for the national benefits accruing from Her Majesty's reign, and as a memorial of her greatness, her worth, and of the services she has rendered to the Empire, to establish a convalescent home for the benefit of the patients of the Bristol Royal Infirmary, and the Bristol General Hospital, at a cost of £50,000, half to be reserved for endowment. A committee was appointed to carry out the undertaking, and some substantial sums were announced at the meeting. No purpose could be more in harmony with the genius of the year. A good convalescent home is now an essential complement of a good hospital, and, as Mr. Fry said, relieves its funds. It is an economical way of treating patients that are advanced in recovery. Besides, it gives them an immense impulse in the recovery of hope and health. The suggestion united men of all political and religious parties in Bristol, and we hope ere long to report its brilliant success.

THE INFLUENCE OF SMALL-POX HOSPITALS.

THE current number of *Public Health* contains an interesting abstract by Dr. Meredith Young on the Local Government Board (Medical Officers') Report, 1894–5. Dr. Young, in dealing with the question of small-pox, points out that though the thesis of the aerial convection of this disease is regarded by the "bulk of authorities" as a settled question there are many still unconvinced, and he draws attention to the experience of Hastings in 1894, where the facts observed form yet another illustration of the danger of placing these hospitals near to human habitations. It was found in that instance that out of thirty-six cases which occurred within 500 yards of the Hastings Small-pox Pavilion the percentage of small-pox attacks to population varied as follows:—

	Attacks.
Within 100 yards circle	4·2 per cent. of population.
„ 100 to 200 yards zone ...	2·7 „ „ „
„ 200 „ 300 „ „ ...	1·9 „ „ „
„ 300 „ 400 „ „ ...	0·9 „ „ „
„ 400 „ 500 „ „ ...	0·2 „ „ „
Total within 500 yards circle ...	1·3 „ „ „

Dr. Young adds that the diffusion of small-pox occurred apart altogether from any communication of contagion by infected persons or things, as a most painstaking inquiry showed.

EUCAINE AS A LOCAL ANÆSTHETIC.

EUCAINE, which is, according to Professor Charteris, a "methyl ester of a benzoylated oxypiperidine, carboxylic acid," possesses some undeniable advantages over cocaine. It is capable of synthetic manufacture and so is cheaper; and it does not possess the mydriatic effect of cocaine. Whether, however, it deserves all the encomium lavished upon it in respect to its greater safety appears open to doubt. Professor Ponchet, in a paper read before the Société de Thérapeutique on Jan. 27th, asserts that eucaine is a powerful cardiac depressant, and in some instances produces sudden death without warning. Injection of 2 milligrammes into a frog caused slowing and irregular action of the heart,

while a like dose of cocaine produced no effect. He regards eucaine as inferior clinically and as far more dangerous than cocaine. Upon the other hand, Professor Charteris and Dr. MacLennan recently communicated to the Royal Society of Edinburgh a paper dealing with the physiological action of eucaine, which gives that body a more favourable aspect. Solutions were injected hypodermically into guinea-pigs. A lethal dose of eucaine was found to be 0·09 gramme (per kilogramme of body weight), that of cocaine being 0·068. The phenomena of dying under eucaine showed less head rotation, less opisthotonos, less salivation, and less difficulty of breathing; the symptoms, moreover, took longer to develop than was the case with cocaine, while larger quantities than of the latter were required to produce toxic effects. The influence upon the heart is not mentioned. It must be confessed that we do not at present possess sufficient knowledge of the physiological and clinical behaviour of eucaine to pronounce a definite opinion upon it.

THE "YORKSHIRE POST," "THE LANCET," AND THE LEEDS INFIRMARY.

THE *Yorkshire Post* is certainly one of the best informed and most readable papers in England, but in its criticism of our Special Commissioner's article upon the Leeds Infirmary—the sixth article in the series entitled "Hospital Abuse"[1]—it has done us scant justice. Our Commissioner has sought to collect impartially all the available information bearing upon the subject. For instance, in his first article on Manchester he set forth the arguments adduced by the consultants of that town and by the visiting staff of the hospitals. This practically constituted an indictment of the general practitioners. Then in the subsequent articles he gave the opinion of the general practitioners, which in its turn constituted an indictment of the hospitals and of the consultants. Now at Leeds the principal feature which distinguishes that town from other towns is the influence and powerful organisation of the Workpeople's Hospital Fund. Naturally our Commissioner gave us as fully and as forcibly as possible the arguments and the opinions of this important organisation. Thereupon the *Yorkshire Post*, in a leading article, attacks THE LANCET. If we were to attack the *Yorkshire Post* because of the opinions expressed by a Liberal leader whose speech was reported in the columns of that paper the position would be the same. Our Commissioner seeks to describe all views that bear upon the question of hospital abuse; that does not mean that he approves or that we approve of these views. Such views are held, they exercise a certain influence, and we record the fact. That is all. The *Yorkshire Post* would not refuse to publish one of Mr. Gladstone's speeches, though it is opposed to the political opinions of that statesman. We cannot hope to solve the problem of hospital abuse unless we hear all sides of the question. The *Yorkshire Post* has every right to attack the opinions of the friends and advocates of the Leeds Workpeople's Hospital Fund, but it is not justified in fastening these views upon our Commissioner as if they were his views and his opinions.

THE RE-ENDOWMENT OF GUY'S HOSPITAL.

THE interim report of the Re-endowment and Sustentation Funds in connexion with Guy's Hospital, which has just been issued, shows that the amount received on the re-endowment fund account up to Sept. 30th, 1896, was £161,907 19*s.* 4*d.* Of this sum, £18,826 16*s.* 8*d.* was devoted to the repayment of a loan to the hospital, and the sum of £142,981 2*s.* 8*d.*, less £6364 1*s.* 3*d.*, the expenses of the appeal and of the festival, has been invested in approved securities. The amount received on sustentation fund account up to Sept. 30th, including £13,932 11*s.* 3*d.*, the balance transferred from the old special appeal fund of 1886, was £34,417 11*s.* Of this total certain items amounting to £6965 1*s.* have been transferred to the re-endowment fund. The sum taken from the sustentation fund since its inception to supplement the deficiency in the ordinary income of the hospital was £11,206 13*s.* 10*d.* The appeal has been necessitated by reason of the growing depression in agriculture, the endowment of Thomas Guy, which from 1725 to 1886 provided for all the financial requirements of the charity, having fallen in 1895 to about one-half of its previous value. The treasurer states that of the £500,000 asked for only about one-third has as yet been forthcoming and 150 beds still remain closed.

[1] THE LANCET, Feb. 13th, 1897.

THE LATE M. BLONDIN.

IT is but a just tribute to M. Blondin on the part of the press to devote a few columns to his unprecedented feats as an acrobat. There was a pluckiness about him which wel became one with his muscles and his nerves, and which was strikingly manifest at both ends of his life—in his childhood, when at nine years of age he was left as an orphan and resolved to look out for himself; and in his advanced age, when, after losing his money, he had to begin the world afresh and repeat the achievements which caused the spectator to hold his breath. His actual feats, including the crossing of the Falls of Niagara, with a man or a lion in his care, or blindfolded, or on stilts, are likely to remain long unrivalled, and perhaps properly so. Meantime they are a record in the region of physiology of simply marvellous command and coördination—of feet with the sensibility of hands and of a brain working with equal perfection in its way. Possibly the most striking thing was the long continuance of his remarkable powers. It is one thing to do such feats at twenty and another to retain the power at seventy or more. And yet so lately as 1896, when he must have been seventy-two years of age, we read that he performed in Belfast. This is the more remarkable, as fully ten years ago, after it is understood, reverses in fortune, Blondin showed unmistakeable indications of physical degeneration. We may question the ethics of such a use of fine nerves and limbs, but we can scarcely question the heroism of the man in battling with life according to his methods and his faculties.

CORTICAL EPILEPSY SURGICALLY TREATED.

Dr. WEISSGERBER has published in the *Münchener Medicinishe Wochenschrift* a paper in which are given the details of two cases of epilepsy with localised fits which were treated surgically. An abstract of the paper appears in the last number of the *Neurologisches Centralblatt*. The first case was that of a boy, aged ten years, who at the age of one and a half years had sustained a compound fracture of the skull. Several pieces of bone came away before the wound healed. In June, 1891, and in August of the same year the two first attacks, characterised by movement of the left upper and lower extremities, took place, and these were succeeded by recurrences taking place every eight or ten days and lasting for two or three minutes at a time. An operation was carried out dealing with the site of the old scar. A defect was found in the bone and adhesion of bone, dura mater, and brain. These were all removed or separated, even part of the cortex being taken away. Rapid healing took place and the boy remained for two years without an attack, and he has remained since April, 1894, quite free from fits and in a satisfactory mental condition. The second case was that of a man aged

twenty-eight years, who at the age of ten years had received a blow on the head which was followed by prolonged suppuration. A few weeks after the accident there were cramps in the right arm and afterwards weakness of that and of the corresponding leg, with headache. A year later all these symptoms disappeared. At the age of seventeen years Jacksonian attacks became established, commencing in the right side, but affecting also the opposite one, and the scar on the head simultaneously became painful. The attacks occurred frequently, and finally operation was undertaken. There was found a considerable defect in the skull and underneath this a cyst containing clear fluid. Some of the bone was taken away, the dura mater was separated, and the cyst wall with part of the brain substance removed. The attacks remained in abeyance for four weeks and then recurred about once in five weeks, but the patient had at the time of writing been quite free from them for more than eighteen months.

BELGIAN GUARDIANS CLAIM MEDICAL RELIEF FOR THEMSELVES.

THE effrontery—not to say dishonesty—with which well-to-do people continue to obtain medical attendance for little or nothing is, of course, not confined to this country. Indeed, in many parts of the Continent matters are probably even worse than with us. Thus, the medical practitioners residing in a certain district in Belgium have recently drawn up a list of persons who have the right to gratuitous attendance, but who are quite able to pay for it. The very modest demand that such people should no longer be authorised to laim the services of the district medical officer has met with a refusal and the grievance is now being discussed in the political journals. From the correspondence published we learn that for the last twelve years the medical men in the district have had grave cause of complaint regarding the medical attendance on the poor — for which a fixed yearly salary is paid — inasmuch as the list of "poor" has been drawn up so as to include nearly all the well-to-do people in the place, including shopkeepers, farmers, and most of the guardians of the poor and communal councillors themselves (!) which is said by the writer to be definitely illegal, as, of course, it ought to be. No wonder that there should be some difficulty about getting the list revised. It appears that the whole of the local profession is now determined to make a stand against this injustice.

THOMSEN'S DISEASE.

AT a recent meeting of the Berliner Gesellschaft für Psychiatrie und Nervenkrankheiten, of which an account appears in the *Neurologisches Centralblatt*, Dr. Pelizaeus showed an interesting example of this peculiar disease, offering, however, some marked differences from the usual type. The patient was twenty-seven years of age and had come from a healthy family. His trouble began at the age of sixteen years, and now his muscles showed considerable departure from the normal. There was not the universal over-development of those which is met with in most cases of myotonia, for some of them actually showed an atrophic condition, as the deltoid and the muscles of the ball of the thumb on both sides. If the patient extended the arm or hand he could in a comparatively short time flex them again, but if he first flexed them extension required both time and considerable effort. There were also symptoms of some bulbar affection, his articulation having a nasal character, and on an attempt to blow out a light air came through the nose and there was a marked tendency to choke, especially in swallowing liquids. The affection seemed to be a progressive one, and a sister of the patient, aged twenty-one years, was similarly affected. In the discussion which followed, Professor Jolly mentioned a case of muscular atrophy which he had shown at the society, which afterwards became one of Thomsen's disease; and Professor Remak mentioned a case published by Professor Hoffmann in which there was neuritis of the median nerve, possibly from the severe pressure of the contracting muscles. There seems to have been a general agreement that the case shown was really one of Thomsen s disease.

CHEAPENING THE CARRIAGE-RATES FOR CIDER.

THE first great step towards the revival of the cider industry has been accomplished in the promise of the railway company serving the Herefordshire district to convey cider at a cheap and special rate. This should give a distinct impetus to the revival of a once important industry, since the high cost of distribution is a powerful factor against success. It is hoped that the same proportionally low scale of rates will be conceded also by other companies. The whole movement is not a fad, but one of national importance as tending to promote the availability and use of an undoubtedly refreshing and wholesome beverage, and we congratulate Mr. Radcliffe Cooke on the evident progress he is making towards this end.

A SUBLIMELY RIDICULOUS STATEMENT.

"THE sublime and the ridiculous," says the *Medical Press and Circular*, "seem to be curiously illustrated in the regulations, written and unwritten, which belong to the Royal College of Physicians, London." Our contemporary then proceeds to state that no Fellow or Member of the College is permitted to publish anything on syphilis, understanding that "only recently a Fellow of the College was severely taken to task by the President for having so far offended against the traditions of the College as to publish an important communication upon the forbidden subject." Were it not that the rest of the article is peppered over with such adjectives as "grandmotherly," "narrow," "illiberal," "fatuous," and "ignoble," we should have supposed the *Medical Press and Circular* to be poking fun at the profession. But thus to abuse the College on false grounds would be carrying fun to such an indecent length that we are forced to believe that our contemporary has been made the victim of a hoax by one of its contributors. If so, the hoax is all the more cruelly opportune because on Tuesday last the Royal College of Physicians of London appointed a strong committee to inquire into the working of the Contagious Diseases Acts in India, and a knowledge of syphilis will be expected of each gentleman selected to serve. The present President of the College has sat on two such Commissions previously, and, as a further reason why Dr. Wilks should not "take seriously to task" any Fellow or Member of the College for dealing with the subject, we may remind our readers that he himself published a lecture on syphilis—and a very admirable discourse, too—in our columns in 1867. This lecture was delivered to the students of Guy's Hospital, and the very first sentence lays down the obvious truth that constitutional syphilis must be regarded as, "strictly speaking, a medical disease." How does the *Medical Press and Circular* think that diseases of the nervous system, for instance, are to be treated if the subject of syphilis may not be mentioned by the physician? We hope that our contemporary will see the fitness of expressing some regret for its misapplied abuse of the Royal College of Physicians of London.

A COPY of the memorial to be presented to the Royal College of Physicians of London by the Hospital Reform Association has been sent to us by the honorary secretary of the association and lies for signature in our offices.

OWING to some misapprehension we are asked to state that the memoir contained in the volume of "Essays and Addresses by Sir John Russell Reynolds," recently published, was written by Dr. Squire Sprigge.

THE anonymous benefactor who has undertaken to re-build and extend the University College Hospital in Gower-street, London, at a cost of £100,000 is now formally stated to be Sir J. Blundell Maple.

LORD LISTER, who was introduced by Lord Watson and Lord Playfair, on Tuesday last took the oath and his seat in the House of Lords on his elevation to the peerage.

THE two vacancies in the Executive Committee of the General Medical Council have been filled by the appointment of Mr. Brudenell Carter and Dr. Glover.

WE understand that Surgeon-Major Horace Pinching has been appointed Medical Officer to Mr. Rennell Rodd's Mission to King Menelik.

THE Duke of Bedford has accepted the office of President of University College Hospital.

THE INTERNATIONAL SANITARY CONFERENCE.

SPEAKING of the International Conference at Venice in THE LANCET of the 13th instant we alluded to the different standpoints from which the delegates from this Government and their Continental *confrères* would probably regard the question of quarantine and international precautionary sanitary requirements. We pointed out that if our experience had taught us to lean with more confidence on sanitary preparedness than on strict measures of quarantine, sanitation, nevertheless, in its broadest and best sense, was necessarily of slow growth, and meant time and money, and that Continental nations with the enemy at their door very naturally sought to close the door and endeavour to exclude the foe by those severely restrictive measures of quarantine on the efficacy of which they relied; and we added that we hoped all the delegates would approach the discussion of the questions to be considered by them in a dispassionate and eminently conciliatory and reasonable spirit. If that were done we confidently believed that some practical line of action would be the result of their deliberations. It is very gratifying, therefore, to find that this spirit appears to have animated the members of the conference in all the proceedings which have so far taken place.

The opening sitting was held at the Royal Palace at the western end of the Piazza San Marco on the afternoon of February 16th, when some fifty delegates, representing all the principal Powers, were present. Surgeon-Colonel Richardson appeared on behalf of the Indian Government pending the arrival of Surgeon-Major-General Cleghorn from India. The opening day's proceedings were mainly of a formal and complimentary character. Count Lützow, Austrian Minister at Dresden, after returning thanks for the delegates to Count Bonin Longare, Under-Secretary of State for Foreign Affairs, for his welcome in the name of the King of Italy, proposed Count Bonin as President, which was unanimously agreed to.

The subsequent progress of the proceedings of the conference from day to day has been satisfactory, and considerable advance has been made towards the settlement of several vexed questions. Without taking up all the points stated to have been raised for discussion, which would prove a tedious and impossible task, we must content ourselves with touching upon the more salient of them. First, then, as regards the ratification of the Paris Convention of 1894, Mr. Herbert, the diplomatic representative of Great Britain, announced the readiness of the English Government to ratify the Convention with three reservations, the details of which he stated to the Conference. The announcement made a most favourable impression upon the Conference and is regarded as an earnest of British goodwill towards the cause of international sanitation.

The reports which have appeared in the *Times*, from their special correspondent at Venice, have been particularly full and interesting, and we cannot do better than follow the account of the proceedings of the Conference that have been published in the columns of that journal. Judging from a week's proceedings the present Sanitary Conference, says the *Times* correspondent, is a decided improvement on its predecessor as regards the conciliatory spirit of all the delegates. The Austrians and French in particular have manifested towards England and the Indian Government a degree of consideration which is warmly appreciated and reciprocated. Count von Lützow and M. Barrère, the Austrian and French diplomatic representatives, have shown themselves especially anxious to promote a good understanding, while the technical authorities, such as Professor Proust, Professor Brouardel, and Dr. Thorne Thorne, have been no whit behind the diplomatists. The issue of the present conference is civilisation *versus* plague rather than theoretical prophylaxis *versus* commerce, as has been the case on some previous occasions. The action of the English Government with regard to the ratification of the Paris Convention has stimulated these friendly feelings and enhanced the probability of the Conference being thoroughly successful. The only obstacle to the application of the Paris Convention is Turkey, which country is without a diplomatic representative at Venice. Since the provisions of the Convention would affect Turkish territory more than that of any other country the ratification of the Convention by the Porte is almost a *sine quâ non* of its efficacy. Energetic efforts are being made to obtain a reply from the Porte, and the Conference will probably sit until such reply is forthcoming. In the event of a refusal measures of sanitary or commercial coercion might be devised.

Surgeon-Major-General Cleghorn, the representative of the Indian Government, joined the Conference on the 20th inst., and his arrival brought up the total number of delegates to sixty-five. The delegate from India gave a detailed description of the precautionary sanitary measures in force at Bombay and Karachi since October last, and his observations are stated to have created a favourable impression. He was able to assure the Conference that there was a rigorous individual examination of all pilgrims on shore before embarkation and of passengers on board their vessels before starting. The work was executed by a large staff of male and female medical practitioners, twenty of whom were engaged on the steamer which brought him from Bombay to Brindisi. The impression entertained by the most competent authorities is that the danger of the introduction of plague into Europe has been greatly exaggerated, and the probability of its conveyance by merchandise very small; indeed, the probability of plague being transmitted from India is much less than in the case of epidemic cholera.

Two sub-committees have been organised to consider the means for combating the plague outside Europe and to concert measures of defence in Europe respectively, and these bodies have already passed in review a number of propositions of a more or less technical character with regard to some of which practical conclusions have been agreed upon.

THE BARKER PRIZE.—The Royal College of Surgeons in Ireland announces that a Barker Prize of £26 5*s.* is offered for competition and is open to any student whose name is on the anatomical class list of any school in the United Kingdom. The prize is offered for a dissection of the region in front of the sterno-mastoid above the cricoid, with special relation to lateral pharyngotomy, the removal of tonsillar tumours and of infiltrated glands in cancer of the tongue. The preparation must be sent to the curator of the museums, Royal College of Surgeons in Ireland, before June 1st, 1897, marked with a *nom de plume* and accompanied by a sealed envelope bearing outside the same signature and containing within (*a*) the full name of the competitor, and (*b*) a declaration that the work of the preparation has been carried out by himself; the printed form necessary for this declaration can be obtained from the curator. The dissections are to be mounted in vessels fitted with glass covers, but the covers must not be sealed down. The cost and risk of transport must be borne by the student. The prize will not be awarded unless sufficient merit is shown.

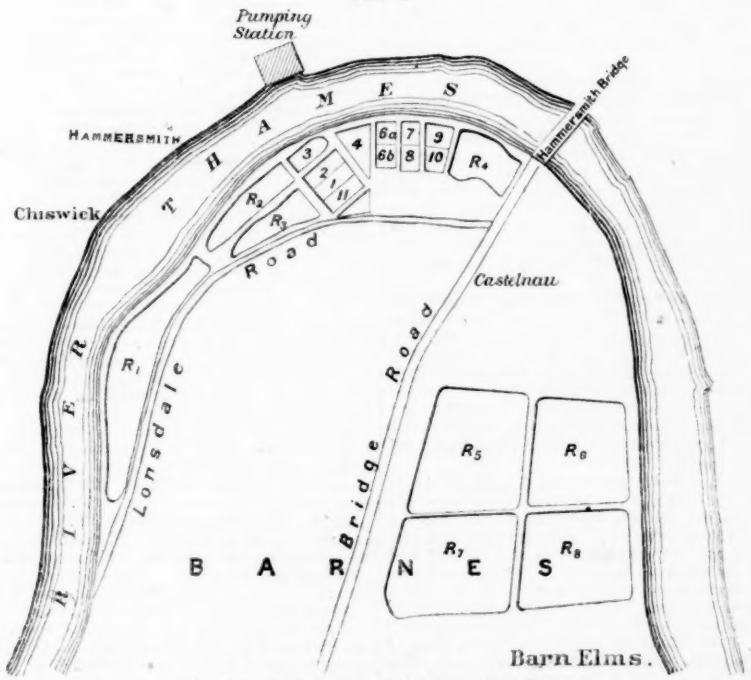
The Lancet Special Commission
ON
THE METROPOLITAN WATER-SUPPLY.

II.[1]

WEST MIDDLESEX WATERWORKS COMPANY.

IN the early part of the present century an engineer named Dodd projected some new waterworks to supply the West-end of London, and in the year 1806 an Act was passed to allow the scheme to be carried out. Hammersmith, Kensington, Paddington, and part of Marylebone were to be supplied, and Mr. Dodd's original plan was to make the works at Hammersmith, but later he wished to have them at Poole's Creek, near Fulham. The shareholders of the company disapproved of the change of plan. Mr. Dodd left their service, and in 1807 a new engineer was employed and the works were constructed at Hammersmith as originally proposed. Wooden pipes were at first used for the conveyance of the water and stone ones were afterwards adopted, but as these proved unsatisfactory cast-iron pipes were substituted in the following year. In 1809 land was bought on Campden-hill and a reservoir capable of holding over 3,500,000 gallons was constructed there. This was done with the intention of supplying parts of the district of Marylebone, but difficulties were placed in the way of this extension. The original Act of Parliament authorised the company to supply "certain parishes and places as well as parts adjacent." The company construed the expression "parts adjacent" to mean the whole of Paddington and Marylebone, but the select vestry of Marylebone objected to the pavements being taken up for laying the pipes. In 1810 the company obtained an extension of their authorised area of supply and this difficulty was therefore overcome. In 1825 a reservoir was built on Barrow-hill, near Primrose-hill. It was constructed to contain 4,750,000 gallons of water and was situated at an elevation of 190 ft. above ordnance datum. This reservoir was supplied from Hammersmith. In 1838 subsiding reservoirs were made at Barnes and the water from them was taken to the engines at Hammersmith through a pipe laid in the bed of the river. An Act of 1852 (15 and 16 Vict., cap. 159) provided that water for the supply of London should not be taken from the tidal portion of the Thames. The West Middlesex Company selected Hampton for their new station, the intake was removed, and engines were put up to pump water to the subsiding reservoirs at Barnes. These works were completed in the year 1855. Filter beds were made at Barnes and the reservoirs at Barrow-hill and Kensington were covered over. In 1860 the filtering area was enlarged and the pumping power increased. In 1866 the company obtained leave to supply parts of Hampstead, Hendon, Willesden, and part of Acton, in the county of Middlesex, and a reservoir was made near the Finchley-road 323 ft. above ordnance datum. Afterwards a second 36-in. conduit was laid across the Thames from Barnes to Hammersmith, and a covered reservoir was constructed at Willesden. In some of the districts a constant supply of water was given in 1872. In 1886 the Thames Conservancy entered into an agreement by which the company was allowed to take from the river 4,500,000 gallons of water in addition to the 20 000,000 gallons which they had previously taken. In 1896 large reservoirs were completed at Barne Elms and two others were begun.

FIG. 1.



The Reservoirs and Filter Beds of the Company at Barnes.

General description.—The West Middlesex Waterworks Company's area of supply includes Hammersmith, Earl's Court, the Regent's-park district, Portland Town, Kilburn, Child's-hill, Willesden, and extends as far north as Hendon. The district supplied by the company is bounded on the west by the Grand Junction district, on the south partly by the Chelsea district and by the Thames, and on the east by the New River Company's area of supply. The company's stations are—Hampton, intake; Barnes and Barn Elms, reservoirs and filter-beds; Hammersmith, pumping station; Campden-Hill, reservoir; Barrow-hill, pumping station and reservoir; Kidderpore, reservoir; Willesden, pumping station and reservoir; and Shoot-Up hill, reservoir.

Hampton.—The intake is at Hampton from the Thames.

[1] No. I. was published in THE LANCET of Feb. 20th, 1897.

The unfiltered water is pumped through mains which pass through Twickenham, cross under the Thames at Richmond, then run through Mortlake and Barnes, where the storage reservoirs and filter-beds are situated. From Barnes the filtered water crosses the Thames to Hammersmith and is pumped thence to the district in the immediate neighbourhood and the reservoirs at Campden-hill (Kensington), Barrow-hill (Primrose-hill), and to Willesden. There are also reservoirs at Kidderpore (Hampstead) and Shoot-Up-hill, and these are supplied by pumping from Barrow-hill and Willesden.

Source of water.—The whole of the water supplied by the company is taken from the Thames at Hampton. The water first passes through a coarse-meshed iron screen placed in front of an intake bay. The bars of the screen are placed ¾ in. apart. The width of the inlet is about 30 ft. and the height of the Thames is regulated by the Thames Conservancy, so that the water does not fall to a lower level than 2 ft. from the top of the pipes. There are two mains each 48 in. in diameter. The water first passes into a screen-house.

Screen-house.—The water passes through two screens of galvanised iron, of which the meshes are ¼ in. These screens prevent small leaves and other débris from passing in. They are arranged so that they can be drawn up to be cleaned; the cleaning is done with a broom, always once a day, and more frequently if necessary. From the screen-house the water passes in two 48-in. mains to a circular shaft 20 ft. in diameter, from which the water is distributed to the various engine wells.

Engine-house.—There is one of Simpson's horizontal engines, which is capable of pumping 24 000 000 gallons of water a day to Barnes. The steam is generated by five Cornish boilers. The second engine-house contains two vertical Worthington engines, each of which is capable of pumping 16,000 000 gallons a day to Barnes. The steam for these engines is supplied by four Lancashire boilers, and the arrangements are such that any of the engines can be worked by either set of boilers. There are no subsidence reservoirs or filter-beds at Hampton, but the water, after passing through the screens which have been described, is pumped direct to Barnes.

Course of the mains.—Two 36-in. iron pipes convey the water along the high road to Richmond. At Richmond they go under the river a few yards below the bridge and then along the high road to Barnes. There is a connexion with the Southwark Company's mains opposite the Black Horse public house at Marsh Gate, near Richmond.

Barnes and Barn Elms.—The subsidence reservoirs and filter-beds are all situated at Barnes, where the company possess one hundred and ninety-six acres of ground near the banks of the river. (See Fig. 1.)

Subsiding reservoirs.—There are now in use six subsiding reservoirs. Into the first reservoir the water passes through a bell-mouthed opening, and the water flows out after the manner of a miniature fountain. This arrangement was devised by the late Dr. Tidy to ensure that the water should become aerated as much as possible. The area of this reservoir is seventeen acres and it is capable of storing 57,000,000 gallons of water. From the first reservoir the water passes to the second, which is at a lower level, the fall being 4 ft. 6 in. Some of the water falls over in the form of a cascade, but the greater part passes through a tunnel. The second reservoir has an area of about five and a half acres and a storage capacity of 17,750,000 gallons. The third reservoir is at the same level as the first, has an area of about seven acres, and a storage capacity of 18,750,000 gallons. A caretaker's cottage is situated between these three reservoirs. A fourth reservoir, situated near Hammersmith Bridge, has an area of about seven and a half acres and a storage capacity of 24,000,000 gallons. Two other large reservoirs have just been completed at Barn Elms. These have an area of about fifty acres and are capable of containing 167,000,000 gallons of water. The slopes forming the sides of the new reservoirs are lined with concrete and brick at the upper part, and at the top of the slope is a flat berme and a breast wall. This arrangement is designed to prevent the water from being blown over in windy weather.

Filter beds.—The filter beds are situated between the Lonsdale-road and the river and between the third and fourth reservoirs. The number of the filter beds is eleven and their total area fifteen acres. Nos. 1, 2, and 3 have an area of one and one-third acres; No. 4 has an area of two and a quarter acres; No. 5 has an area of one and three-quarter acres; Nos. 6a and 6b have an area of one acre each; No. 7, 8, 9, and 10 have an area of one and one-sixteenth of an acre each; and No. 11 has an area of one acre. The filtering material consists of 2 ft. 6 in. of sand resting on 1 ft. of ballast. The only difference in the arrangement of the filters is that for the collection of the filtered water. The greater number of them have earthenware collecting drains, placed at intervals of 30 ft., to conduct the water to the central collecting channel. Four of the filters (Nos. 7, 8, 9, and 10) rest on square earthenware tiles, which are placed quite close together. The remaining filter (No. 11) is floored with stones and has no collecting channel except the central one. The size of the ballast varies from about ⅝ in. up to 2 in., the smaller ones being placed at the top and the larger ones at the bottom. The rate at which filtration is carried on is on an average one and one-third gallons per square foot per hour. After filtration the water passes under the Thames in two 36-in. iron pipes to Hammersmith pumping station. The pipes can be seen in the bed of the Thames at low water, and it is proposed shortly to construct a tunnel in the clay under the Thames and to run the pipes in this.

Hammersmith.—The chief pumping station is at Hammersmith, whence the water is distributed into the district, to the reservoir on Campden-hill, and the subsidiary pumping stations at Barrow-hill and Harlesden. From Barrow-hill the water is pumped to Kidderpore and to Shoot-Up-hill, if required. From Willesden it is re-pumped for the supply of Shoot-Up-hill reservoir. At Hammersmith there are four Cornish engines capable of pumping 14 000,000 gallons into the district daily. There are three compound beam engines capable of pumping 13,500,000 gallons a day. There is also a compound Worthington engine which can pump 5,500,000 gallons a day, and two triple expansion Worthington engines capable of pumping 3 500,000 gallons. The steam is generated by thirty-two Cornish boilers.

Campden-hill, Kensington.—The reservoir is situated at an elevation of 120 ft. above ordnance datum on the eastern slope of Campden-hill rather below that of the Grand Junction Company, which is situated on the other side of the road, (and is marked by the tower which is a conspicuous object from a distance) The reservoir is built of brick, and is not covered with earth at the top. It is capable of holding 3,762 000 gallons of water, which is pumped here from Hammersmith. One 21-in. main from Hammersmith passes down the South side of the Company's property. The overflow from the reservoir passes into a brick drain of about 2 ft. by 1½ ft. There is a house for the assistant engineer and a cottage for the turncock here.

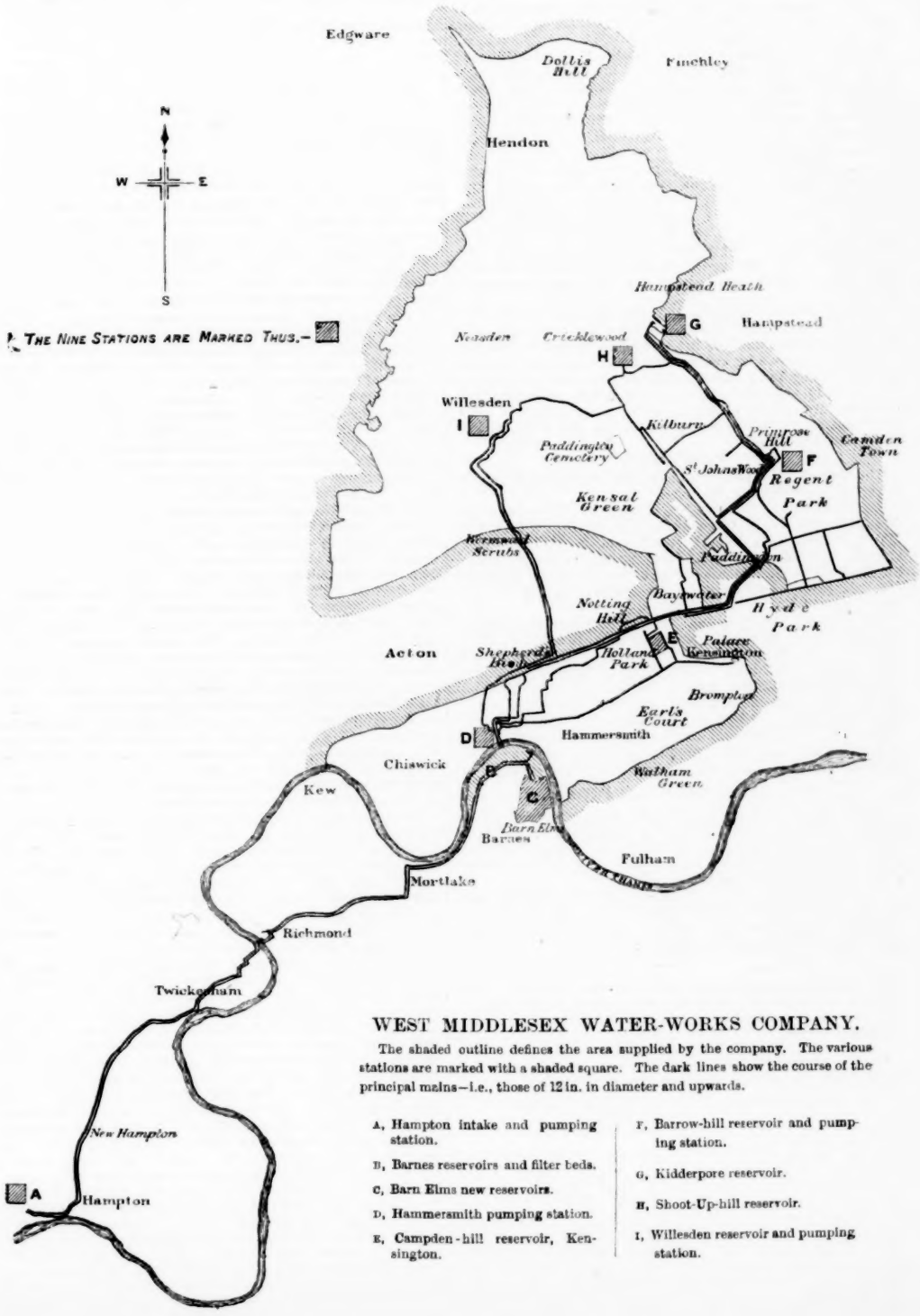
Barrow-hill.—The company's station on Barrow-hill is next the open space on Primrose-hill. The height above ordnance datum is 190 ft. There is a covered reservoir built on arches capable of holding 4,750,000 gallons of water. As to engines, there is a single cylinder beam engine capable of pumping 1,200 000 gallons daily, a single cylinder horizontal engine capable of pumping 1,750 000 gallons, and a compound horizontal fly-wheel engine capable of pumping 2,930,000 gallons daily. The engines are worked by six Cornish boilers. The assistant engineer's house and two cottages are situated at Barrow-hill.

Shoot-Up-hill.—On the plateau at the highest point of Shoot-Up-hill is a reservoir built on arches. It is 250 ft. above ordnance datum and is capable of holding 6 000 000 gallons of water. Water can be supplied to this reservoir either from Willesden or from Barrow-hill (Primrose-hill). The quantity of water taken is regulated by a 16-in. screw cock situated at the bottom of the hill. This reservoir formerly belonged to the Grand Junction Company.

Kidderpore.—At an elevation of 323 ft. above ordnance datum there is a reservoir capable of holding 2 500,000 gallons. The reservoir is covered in with brick arches and the roof is not earthed over. A caretaker's cottage is situated here.

Willesden.—At Willesden there is a pumping station and a reservoir. There are two compound horizontal fly-wheel engines capable of pumping 2,000,000 gallons each daily. The steam is generated by two Cornish boilers. The water is pumped to Shoot-Up-hill. The reservoir which is situated 190 ft. above ordnance datum and is covered by strong brick arches and earth, is capable of holding 2,500,000 gallons.

Length of pipes.—In 1895 16,708 yards of new pipes, ranging from 3 in. to 48 in. in diameter, were laid. In 1896



WEST MIDDLESEX WATER-WORKS COMPANY.

The shaded outline defines the area supplied by the company. The various stations are marked with a shaded square. The dark lines show the course of the principal mains—i.e., those of 12 in. in diameter and upwards.

A, Hampton intake and pumping station.

B, Barnes reservoirs and filter beds.

C, Barn Elms new reservoirs.

D, Hammersmith pumping station.

E, Campden-hill reservoir, Kensington.

F, Barrow-hill reservoir and pumping station.

G, Kidderpore reservoir.

H, Shoot-Up-hill reservoir.

I, Willesden reservoir and pumping station.

the length was 16,723 yards. The total length of pipes on Dec. 31st, 1896, was 480 miles.

Number of hydrants.—The number of hydrants erected in 1895 was 156, and in 1896 was 204. The total number on Dec. 31st, 1896, was 942.

Communication with other companies' mains.—Filtered water—Grand Junction: (1) at the junction of Edgware-road and Bayswater-road; and (2) at Kilburn. New River: (1) at the junction of Tottenham-court-road with Oxford-street; and (2) at the junction of Tottenham-court-road with Euston-road. Unfiltered water—Southwark and Vauxhall: at Marsh-gate, near Richmond.

Houses under constant supply.—The number of houses receiving constant supply on Dec. 31st, 1894, was 50 985; on Dec. 31st, 1895, 55 933; and on Dec. 31st, 1896, 64,701.

Total number of houses supplied.—The total number of houses supplied on Dec. 31st, 1894, was 78 486; in December, 1895, 79,644; and in December, 1896, 80,697.

Percentage of houses under constant supply.—On Dec. 31st, 1896, the percentage of houses under constant supply was 80.

Average daily supply.—In 1895 the average daily supply per head was 35·66 gallons. In June the maximum was attained, the amount per head being 40·59 gallons, and the minimum occurred in the month of February the amount per head being 31·52 gallons. In the year 1896 the average daily supply was 34·5 gallons. The maximum supply was given in July and amounted to 39·8 gallons per head. The minimum supply was given in December and amounted to 31·3 gallons per head.

Area of Supply.

The Act of 1852 authorises the West Middlesex Company to supply the following places:—

Partly supplied.—Chelsea (St. Luke, west of the boundary defined in the Act[2]), Chiswick (St. Nicholas), Ealing (St. Mary), Fulham (All Saints), Hammersmith (St. Paul), Kensington, (St. Mary Abbott), Paddington, Soho (St. Anne), St. Marylebone, St. Pancras (south of Fig-lane), Westminster (St. Margaret), and so much as lies within the town of Kensington.

Not supplied.—Barnes (St. Mary), Battersea (St. Mary), Bloomsbury (St. George), Brentford (Old), Brentford (New), Hanwell (St. Mary), Heston, Hounslow, Isleworth, Kew (St. Anne), Mortlake, Putney (St. Mary), Richmond (St. Mary Magdalene), Strand (St. Mary-le-), St. Clement Danes, St. Giles-in-the-Fields, St. Paul (Covent-garden), Westminster (St. James), and Wandsworth (St. Mary).

The Act of 1866 authorises the supply of Willesden, which is wholly supplied. Partly supplied: Acton (north of Great Western Railway), Hendon, and St. John (Hampstead).

New Works in Progress and Projected.

Reservoirs.—At Barn Elms two large reservoirs are in course of construction and will be completed in the early spring. They are situated near to the new ones described and are constructed on the same plan. They will be capable of storing 133,000,000 gallons of water.

Tunnel under the Thames at Hammersmith.—It is proposed to make a tunnel under the Thames between Barnes and Hammersmith for the conveyance of the mains which carry the filtered water under the Thames.

ERRATUM.—By an obvious error the word "Chelsea" was written for "Lambeth" in the description of the map on page 543 of THE LANCET in last week's issue. The map is perfectly correct.

---

[2] Section 32 of the West Middlesex Waterworks Act, 1852, is so framed as to enable the Chelsea Company to exact a penalty from the West Middlesex Company in the event of the latter supplying within a certain defined part of the eastern portion of the parish of Chelsea.

THE ANTI-TOBACCO LEAGUE AND JUVENILE SMOKING.—The members of the English Anti-Tobacco Society and Anti-Narcotic League met recently in Manchester to the number of about a score. A letter of apology for absence was read from Mr. S. Smith, M.P., in which he said that he thought there would be no chance of passing the Bill suggested by the League to prevent juvenile smoking, but if any member liked to introduce it he would be glad to put his name to the back of the Bill. Dr. Martin of Manchester read a paper on Juvenile Smoking, in which he dealt with the injurious physical effects of the habit.

ARMY MEDICAL DEPARTMENT REPORT FOR THE YEAR 1895.[1]

[CONCLUDING NOTICE.[2]]

AMONG the diseases that were unduly prevalent during the year 1895 among the troops stationed in the colonies may be mentioned enteric fever at Bermuda, malarial fever at Mauritius, and venereal diseases in the Straits Settlements. At Bermuda in an average strength of 1447 enteric fever caused 107 admissions and 20 deaths, equal to ratios of 73·9 and 13·82 per 1000, considerably higher than the average rates for the previous nine years. The disease appeared early in June at Warwick Camp, being conveyed thence, it is believed, to other stations in the command. At St. George's, where the drains were defective and the drainage works had been suspended owing to the great heat, the disease seems to have partaken of the nature of a severe outbreak, for there were 46 admissions to the station hospital there and 13 deaths. There should not be any great difficulty, with proper attention to water-supply and to the prevention of the leakage of sewage from drains and cesspits into the soil, in preventing the frequent recurrence of those outbreaks of enteric fever in Bermuda. We suspect, from what we have heard, that much of the disease of the digestive system at this station is attributable to food and cooking; the supply of food is not sufficiently good and varied; it is also apt to become tainted in such a hot, moist climate and the cooking is far from the best imaginable.

The Mauritius is a very unhealthy station owing to malarial fevers. Happily, the average strength (657) is small. Enteric fever caused 15 admissions and 6 deaths during 1895, but malarial fevers were the greatest cause of sickness. There were 460 admissions and 3 deaths—equal to ratios of 700·1 and 4·57 per 1000 respectively. The cases were returned as follows: ague 294, remittent fever 159, and malarial cachexia 7; 2 of the deaths were due to remittent fever and 1 to malarial cachexia. The invaliding-rate was also a heavy one. For very many years past the Mauritius has been a most unhealthy station as regards malaria—a very marked change in this respect having taken place since the severe and fatal epidemic of malarial fever that occurred over a quarter of a century ago at the time when Sir Henry Barkly was governor. Port Louis is particularly bad in this respect, and will continue so, it is feared, until extensive works are undertaken for subsoil drainage. Curepipe, in the uplands, is far healthier, and the troops are as far as possible quartered at this and other stations in the island.

As regards the Straits Settlements the amount of venereal disease among the troops is deplorable. Including all its forms the admissions amounted to 853, the number constantly sick to 62·55, more than half the admissions and constantly sick from all causes. The admission ratio was 623·5 per 1000 in 1895, which is higher by 257·6 than the corresponding rate of the previous year and above the average rate by 210·0. A good deal of this increase, it should be remarked, was attributable to a battalion having arrived during the year from India, bringing the disease with it. The reports of the medical officers make no allusion to anything else affecting the health of the troops.

As regards India our comments and remarks must be brief. Enteric fever caused 1544 admissions into hospital, 383 deaths, and the constant sickness of 219·77 men, being in the ratios of 22·6, 5·61, and 3·22 per 1000 respectively. This disease was rife among the troops, by the way, on the route to and from Chitral. A good deal is being said at the present time about the large prevalence of venereal diseases in India. Taking all forms together, the ratio of admission amounts to 536·9 per 1000, which is more than that of the preceding year by 25·2, and in excess of the average rate by 127·6, while for constantly sick the ratio was 46·31, representing a loss of 3164·84 men to the efficient strength of the force from these diseases, higher than the rate in 1894 by 3·17, and above the average by 14·39. The reports of several medical officers dwell upon the virulent type of the disease,

---

[1] Army Medical Department Report for the Year 1895, with Appendix. Vol. xxxvii. London: Printed for Her Majesty's Stationery Office by Harrison and Sons, Printers to Her Majesty. 1896. Price 4s.

[2] The first and second notices appeared in THE LANCET of Jan. 30th, and Feb. 13th, respectively.

the severity of the constitutional infection, and the very serious extent and nature of the inefficiency to which it gives rise.

Passing on to the appendices to the report we come to that on the progress of hygiene for the year 1896, by Surgeon-Colonel J. L. Notter, the Professor of Military Hygiene at the Army Medical School, Netley, which summarises and reviews the chief points of hygiene that have attracted attention during the past year. The information contained in these articles is considerable and must obviously be valuable and very useful to medical officers. All kinds of subjects bearing on sanitation are touched upon, and under the head of special points of hygiene Ehrlich's test and the so-called serum diagnosis for enteric fever are briefly described.

Under the head of a list of operations performed at the Royal Victoria Hospital, Netley, during 1896 we find an epitome of the surgery at that institution, with some excellent comments and remarks on the cases from the Professor of Military Surgery and the late assistant professor at Netley. The cases of abscess of the liver are well worth reading—indeed, the whole report is instructive. The highly important and successful case of ligature of the common iliac artery by laparotomy for diffuse aneurysm of the external iliac and common femoral vessels, the details of which were published in THE LANCET of Jan. 25th, 1896, is alluded to, together with that of a death from chloroform published in THE LANCET of Sept. 26th, 1896.

The report on the Ashanti Expedition, 1895-96, by Surgeon-Major-General W. Taylor, M.D., late Principal Medical Officer of the expedition, strikes us as uncommonly good. The material is well arranged, the description and remarks are to the point, lucidly expressed, and of an eminently practical character. Surgeon-Major-General Taylor begins his report by saying that the experience gained in the Ashanti Expedition of 1874 was of the greatest assistance in planning the medical part of the present one, and rendered it comparatively easy to decide on what lines the arrangements should be made in view of the prevention and treatment of disease. He lays down in general terms what were the preventive measures followed; they were, in our opinion, wise and good, and, what is more, they were eminently successful. As regards the selection of men we quite concur in thinking that men who have been previously exposed to and suffered from malarious disease should not be sent on such an expedition. Touching clothing, he remarks that drill is neither as cool nor as warm as serge; putties, such as worn in India, are, without doubt, more comfortable and suitable than leggings or gaiters. With regard to the issue of a spirit ration, his remarks are very judicious and sensible; used, as everything else containing a potency for good or evil must be, with care and discretion it is good. The Pasteur Chamberland filters sent out to the expedition were not a success. Their construction was defective and they did not deliver more than an average of five or six gallons in the field. Ice was found of the very greatest service for hospital use. Quinine was issued prophylactically, but, like Surgeon-General Sir A. D. Home's experience in the last expedition, was not found to be of much, if any, good; officers and men who had taken the drug for weeks (as much as 300 grs.) were apparently as liable to fever as those who had not taken any. Arsenic was found to be of service in cutting short ague and remittent fevers. It was given in very bold doses—as much as forty minims or one drachm of liquor arsenicalis were given for a dose without, it is stated, any bad result, provided the precaution were taken of giving a cupful of milk, barley water, or soup immediately beforehand. There are a great many excellent hints and practical observations in the report which may be very usefully read. Not only companies and sections, but individuals, were looked after by officers personally, who saw that each man rubbed himself down and changed into dry underclothing at the end of each march; that he had his tea, cocoa, or soup before starting and immediately on arrival in camp, and that he drank no water that had not been boiled. That the expedition was, from a hygienic and medical point of view, well designed and admirably carried out is the opinion both here and on the Continent.

There is a very good report by Surgeon-Captain H. N. Thompson on the cholera camp at Kokrail, Lucknow, from July 31st to Aug. 27th, 1894. It will be remembered that the severe outbreak was traced to the use of Macnamara's filters. Surgeon-Captain Thompson says that the weak link in the chain of evidence for the truth of the filter theory is that the epidemic decreased immediately after the water-supply was changed, even though it was still passed through the filters, and it also decreased simultaneously in the neighbouring city and district. If the filters were breeding the microbes why did they not, he asks, continue to do so?

Dr. A. E. Wright, the Professor of Pathology at Netley, has an elaborate and well-reasoned paper on the Pathology and Therapeutics of Scurvy, in which he works out the view that all the symptoms of scurvy are perfectly consistent with the theory that the disease consists essentially in an acid intoxication. The article is an acutely and exhaustively reasoned one and will repay careful perusal.

BUBONIC PLAGUE IN INDIA.

WE are glad to begin our report and chronicle this week by the statement that there is at length, according to telegraphic intelligence from Bombay of the 23rd inst., sign of improvement in the epidemic, the mortality tables for Bombay during the preceding six days showing a distinct decrease as compared with the past few weeks.

According to the official returns telegraphed to the Secretary of State for India, in continuation of those already published, it appears that the deaths from all causes in Bombay city for the week ending Feb. 19th were 1772 and the reported deaths from plague 843. The disease continues to show greatest activity in northern portions of the city. Two new hospitals are being prepared. Poona city returns show no increase; one indigenous case occurred in the cantonment during the week. In Coorla, Bandora, Bhiwandi, and the rest of the Thana district the cases have somewhat increased in numbers, but the disease has not spread to fresh places. In Karachi the deaths from plague for the week ending Feb. 19th have been 235; the disease has shown a slight tendency to spread, but it is diminishing in those quarters where it was formerly worst, except in the poorest Mahommedan quarters. Six indigenous cases have occurred in Sind, outside Karachi. Notwithstanding the free egress of the population which has taken place from Bombay in the past and that some of the fugitives have carried the disease with them, so that cases have occurred as far to the south as Bangalore and Belgaum and northward as far as Delhi, the disease has not acquired any firm foothold in the country. Up to the present there have been no cases in Calcutta and the plague has not succeeded in effecting any lodgment in Upper India. Under the Epidemic Diseases Act local officers have full powers of action, and the efforts to deal with the disease generally, to prevent or limit its spread, and to evacuate and improve the sanitation of infected towns and places have been of the most radical, strenuous, and energetic kind and are being systematically carried out. One Indian paper, the *Bombay Gazette*, we may parenthetically remark, has entered a strong protest against the sensational telegrams that have been sent to, and published in, this country, giving rise to an unnecessary amount of alarm both here and on the Continent. There is, no doubt, a natural tendency during times of more or less panic to exaggerate and to "pile up" the figures and details. Be this as it may, the effect of the prevailing epidemic on the material interests of Bombay has been very considerable; but we hope that the worst is now over, and we may also hope and believe that it has not been without some compensatory advantages in that the epidemic has compelled attention to the sanitary state of the city and has led to improvements in this direction not only in Bombay but in many of the other cities and large towns of India.

Dr. Yersin of the Pasteur Institute, whose scientific and bacteriological work in connexion with the plague in China is well known, has left for Bombay, and we may soon expect to hear of the employment of his anti-plague serum in that town and elsewhere in India. Meanwhile Professor Haffkine has been preparing and using in India a prophylactic lymph. Rogers Pasha, the Director-in-Chief of the Egyptian Sanitary Department, has arrived in India, and has been interviewed by one of the staff of the *Times of India*. It appears that in many respects Bombay does not compare at all unfavourably with Cairo and other towns of Egypt as regards sanitation.

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE NATURE OF THE CANCER CELL.

MR. HAROLD J. STILES, F.R.C.S. Edin., who has been engaged for some time in researches on the origin of the cancer cell, discussed that question in a lecture before the Royal College of Surgeons of Edinburgh on the 19th inst He confined his lecture to a consideration of the origin and nature of the more important of the structures which have been described as parasites in cancer. He did not propose to discuss the wider question as to whether or not cancer was a parasitic disease. During the lecture a large series of micro-photographs from the lecturer's own preparations were shown upon the screen. The appearances presented by the various stages of development of the coccidium oviforme of the rabbit were first shown in order that they might be compared with the cancer bodies subsequently shown. The photographs illustrative of Paget's disease of the nipple showed that the peculiar cell elements found in that affection were not psorosperms, but epithelial cells which had undergone a malignant metaplasia, thus confirming the observations of Karg and others. Passing to the ordinary squamous epitheliomata, the lecturer first discussed the nature and formation of the "cell nests," and pointed out that the majority of the structures which had been referred to in these tumours as parasites owed their origin to what Unna terms a hyaline degeneration of the epithelial cells. This degeneration furnishes the chief source of the fuchsin bodies of Russell and of the psorosperms of Darier and Wickham. Typical examples of the "amœbæ" of Korotneff and Kurloff were shown and demonstrated to be due to the hyaline degeneration affecting certain of the systems of protoplasmic fibrils, which, as Kromayer has shown, unite together the prickle cells of the epidermis. The methods of Unna were advocated as particularly valuable for demonstrating the various morphological forms presented by cells undergoing hyaline degeneration. The greater part of the lecture was devoted to the so-called parasites in glandular cancers. Mr. Stiles found most difficulty in tracing the origin of the bodies which had been singled out as parasites, more especially by Ruffer. The lecturer had never been able to satisfy himself that typical Ruffer's bodies occurred in the ordinary skin cancers, although he had no difficulty in demonstrating them in cancers of glandular origin. He referred to the great delicacy of these bodies, and pointed out how much their satisfactory demonstration and correct interpretation depended upon the employment of good microscopic technique. Mr. Stiles had got the best results by making films of scrapings taken from perfectly fresh tumours and treating them according to the principle recommended by Dr. Robert Muir for studying histological changes in the blood. The films are placed at once in the fixing solution, and at no time during the staining or mounting are they to be allowed to dry. This method has the further advantage of doing away with the heat and shrinking attendant upon section cutting by the paraffin method. Photographs were demonstrated to show that the larger forms of Ruffer's bodies were produced by the degeneration of an invaginated cell. Some of the medium-sized forms result from the degeneration of the nucleus of a uninucleated or multinucleated cell. The smaller forms, single and multiple, resulted, in the lecturer's opinion, from degeneration occurring in connexion with a fragmented nucleus, as well as in connexion with fragments of chromatin, or parachromatin, which had become detached from the nucleus. Mr. Stiles was inclined to agree with Pianese, that still other forms were derived from limited degenerations of the cell protoplasm, and possibly also from perversions of cell secretions which had accumulated within the cell. In referring to the work upon pathogenic blastomycetes (yeasts) done within the last two years by Italian observers the lecturer pointed out that while the blastomycetes had a certain morphological resemblance to the appearances already noted, no proof whatever had been adduced to show that they were causally present in cancer, or that they could give rise to the cancerous process when inoculated into animals. At the conclusion of his lecture Mr. Stiles said he wished to direct attention to the recent and valuable histological researches of Pianese upon the pathology of the cancer cell. So far as he had been able to confirm this writer's observations, he agreed with him that all the so-called parasites which had up to the present been described as occurring in cancers were susceptible of explanation as degenerations of one or all of the constituents of tumour-cells or as metamorphoses of their secretion.

At the close of the lecture Mr. Stiles was highly complimented by the President of the College, Emeritus Professor Struthers, on the value of his work towards the elucidation of the important question to which the lecture related. The President announced that the next lecture of the series would be delivered by Mr. Caird.

THE BATTLE OF THE CLUBS.

A SCHEME FOR THE ESTABLISHMENT OF PROVIDENT MEDICAL ASSOCIATIONS.

DR. FREDERICK PEARSE, honorary secretary of the Portsmouth Medical Union, has sent us the draft of a scheme for the universal establishment by medical men of medical clubs throughout the country. Under the working of his scheme he considers that the sick poor would obtain adequate medical treatment, while the evils rampant under the lay management of certain associations would disappear.

There is undoubtedly, as he points out, a large number of the struggling working classes in which the weekly payment of subscriptions to a medical benefit is the only method by which the medical man gets paid at all. A certain class of these people are not to be trusted for the private account of even a few shillings. The provident scheme is, therefore, favourable to the profession. His scheme aims at giving the poor the advantages of private patients while being sufficiently comprehensive to provide for the medical relief of all the classes between those who are in receipt of parochial relief and those who are just able to pay the lowest private fees.

Medical Men must Unite.

It is necessary, runs the draft, for each section of the profession, be it in town or country, to show a united front. Medical men in every town and district should combine and establish a Provident Medical Association with the object of controlling the administration of medical relief to the working classes. Such an association may be stated to have for its object:—"To provide medical advice and physic for the working classes according to a sliding scale and adjusted to their means with the advantage of a selection of their medical attendant."

The acting medical officers should be the executive body with the support of any or all other practitioners as honorary staff and members of a general committee or council. Private medical clubs and medical aid associations must be given up before joining the staff of this mutually benefiting organisation. Powers must be given to the staff to deal with members of their body guilty of unprofessional conduct.

Scale of Payment.

The following graduated tariff seems to Dr. Pearse just:—

	Each member at the rate of
Single members—	
Earning 20*s.* a week and under	4*s.* per annum.
Earning from 20*s.* to 30*s.* a week	5*s.* per annum.
Married members—	
Earnings of family 20*s.* a week and under ... Family tickets at the rate of 20*s.* per annum.	4*s.* per annum.
Earnings of family from 20*s* to 30*s.* a week ... Family tickets at the rate of 30*s.* per annum.	5*s.* per annum.
Earnings of family from 30*s.* to 40*s.* a week ... Family tickets at the rate of 42*s.* per annum.	6*s.* per annum.

Single persons earning over 30*s.* a week and married persons where the income of the family exceeds 40*s.* a week should not be admitted; while persons renting houses over £20 a year will be assumed to be earning over £2 a week. The subscription could be paid weekly or monthly, but the services of a collector would have to be used, only under rigid instructions that he was not to canvass.

A Few Important Points.

Candidates for membership would be, of course, examined, and invalid or unsound lives are accepted at special rates.

An option is given to benefiting members to select their own medical attendant—a privilege which has been almost denied to the poor.

To obviate useless calls, except in cases of sudden urgency, some extra charge should be demanded for special visits. Probably the sum of 1*s.* would be suitable to all parties. Members of the acting staff might cooperate "with one another" in cases requiring additional assistance at the following rates:—Consultation Fees, 10*s.* 6*d.*; Administration of Chloroform, &c., 10*s.* 6*d.*; Assistance at Midwifery Case or at Operation, 10*s.* 6*d.*

The expenses of such an association would be reduced to a minimum. No particular building is required, as the patients go to the surgeries of the medical officers. Printing, stationery, and salary of clerk are alone taken out of the Doctor's Fund.

We commend Dr. Pearse's scheme to our readers, especially in districts where the tyranny of the lay managers of

certain clubs has begun to make itself felt. If the profession unites in its demand for fair treatment the profession must win. And no one save those who are blinded by self-interest can fail to see that a wage limit must be imposed or the medical profession will be, as it is, cruelly exploited.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary Comitia of the Fellows of the Royal College of Physicians of London was held on the 23rd inst., Dr. WILKS, F.R.S., President, being in the chair.

A communication was read from Sir F. Bateman containing a memorial from medical practitioners of Norfolk asking the College to consider the question whether it was right for the College to countenance medical officers of aid associations in consultations. It appears that the Norwich Medical Institute, having some 10,000 members, employs two salaried medical officers, and until recently two consultants, who have resigned their offices. This institute has accumulated large funds; the members' annual subscription is 3s., which entitles them when ill to the services of the medical officers. At a meeting of the medical profession in Norwich there was a unanimous opinion that it was unbecoming of any medical man to take office in such an institution, and the College was asked for its opinion as to the propriety of physicians meeting in consultation any such medical officers.—On the motion of Sir W. Priestley, M.P., seconded by Dr. Cullingworth, the memorial was referred to the Council for consideration.

A somewhat similar communication was read from the Portsmouth Medical Union complaining of Licentiates of the College, who belonged to aid societies or who had their own private clubs, "touting" for patients.—This was referred to the Censors' Board on the motion of Dr. Dickinson, seconded by Dr. F. T. Roberts.

Letters were read from Dr. Rentoul and from the Midwives Bill Committee, the one inviting opposition to, and the other seeking approval of, the Bill now before Parliament.

A report was presented from the delegates of the Royal Colleges on the question of a Teaching University of London, and after a lucid description of the situation by Dr. Allchin, who moved the adoption of the report, which was seconded by Dr. Norman Moore, the report was unanimously agreed to. It embodied the following resolution:—

"That the Royal College of Physicians of London and the Royal College of Surgeons of England, in full accord with their previous action, express the earnest desire that Her Majesty's Government will at the earliest opportunity re-introduce a Bill for the reconstitution of the London University by Statutory Commission on the general lines of the Report of the Cowper Commission, and do assure the Government that such a course will have their approval and support."

It was also resolved that copies of this resolution should be forwarded forthwith to the Lord President of the Council, the Right Hon. A. J. Balfour, and the Senate of the University of London.

The President explained the steps that had been taken at a meeting of Presidents of scientific societies, convened by the President and Council of the Royal Society to further a scheme for the promotion of science in commemoration of the sixtieth year of Her Majesty's reign, by the establishment of a fund to be called "The Victoria Research Fund," to be administered by representatives of the various scientific societies, for the encouragement of research in all branches of science. It was resolved that the College do concur in the scheme and that the President be requested to act on behalf of the College in the matter.

On the motion of Sir Dyce Duckworth, seconded by Sir W. Priestley, M.P., it was resolved:—

"That a committee be appointed to advise the College on the desirability of making a formal declaration of opinion to the Government in favour of the re-enactment of the Contagious Diseases Acts in India, or of some such modification of them as may prevent the spread of contagious diseases."

The President nominated the following Fellows to serve on the committee: Sir Dyce Duckworth, Dr. Church, Dr. Payne, Sir J. Ewart, Sir W. Roberts, Dr. Bowles, Dr. Barlow, and Dr. J. Anderson, C.I.E.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Sunderland Urban Sanitary District.—Dr. H. Scurfield, the medical officer of health of Sunderland, has recently furnished an interesting report on the methods of excrement disposal in his district, and he supplies at the same time some useful information with regard to excrement disposal in the principal towns of the kingdom, together with the general, enteric, and diarrhœa death-rates in the respective towns. In one table is furnished a list of towns in which the number of privy middens exceeds or approximates "5 per cent. of the population," and in another a list of what are termed "watercloset towns." From the average rates for 1890-95 in the respective tables it is to be learnt that in the privy midden towns the general, fever, and diarrhœa rates amount to 20·7, 0·26, and 1·08 per 1000, as against rates of 18·3, 0·15, and 0·52 for the watercloset towns. In the latter group is to be noted the high enteric fever death-rates for Dublin and Liverpool, but in the former instance Sir Charles Cameron regards the saturation of the soil by the privy middens, which until recently obtained, as a powerful factor in the maintenance of the disease in Dublin; and in the latter case the enormous density of population which prevailed in what was formerly the urban sanitary district of Liverpool (prior to the borough extension) had, Dr. Scurfield thinks, an important bearing upon the rates. The whole town-rates are, as Dr. Scurfield doubtless recognised, open to certain fallacies, and he has therefore supplied in his report other tables showing for certain large towns the incidence of enteric fever in houses served with privy middens as compared with those served by water-closets. Amongst these tables may be mentioned those relating to Birmingham, Leicester, and Middlesborough. The figures relative to the latter town we furnished recently in our columns when reviewing Dr. Bruce Low's report on that town. There are in Sunderland some 10 351 privies and ashpits and the annual death-rates from "fever" for that town during 1890-95 amounted to 0·62 per 1000—a rate which is very greatly in excess of other privy-midden towns with the solitary exception of Widnes, which has a similar rate, and it is interesting to note that the privy middens of Widnes have recently been strongly condemned by Dr. Bruce Low. Altogether Dr. Scurfield makes out a very strong case against the privy-midden system, and it is much to be hoped he has succeeded in persuading the sanitary authority of Sunderland to adopt the water-carriage system. The privy middens in his district cover, he points out, some ten acres, and the contents are continually soaking into the ground, the result being that the soil is becoming more and more sewage-logged every year.

Stockport Sanitary District.—In his annual report for 1895 Dr. Charles Porter states that the Sanitary Committee of the Stockport council has called the attention of the guardians to the large number of children unprotected by vaccination; the guardians in their turn have called upon the vaccination officer for an explanation. We wonder if the guardians have in the past prosecuted defaulters according to law. In connexion with autumnal diarrhœa Dr. Porter has continued his observations on the relation of this disease to the temperature of the earth at four feet, and his results, which now extend over four years, fully endorse the discoveries of the late Dr. Ballard. Referring to the subject of "return" cases of scarlet fever, Dr. Porter aptly remarks "that if sanitary authorities are to continue to isolate scarlet fever patients in public hospitals it is absolutely essential that the public should be made to understand that, despite the exercise of every care, it is as wholly impossible to guarantee freedom from infection on discharge as it is to guarantee freedom from death whilst under treatment." Dr. Porter appears to have very kindly undertaken to conduct six patients, who had been bitten by a rabid dog, to Paris for treatment at the Pasteur Institute. Although this is not one of the duties of medical officers of health as laid down by the Local Government Board, it is no doubt an action of which that Board would highly approve. Dr. Porter is not the only medical officer of health who has been good enough to personally conduct patients to Paris

and it may be useful to other sanitary authorities if we state that the inclusive cost of sending these six patients with the medical officer of health to Paris was but £73 1*s.* 6*d.*

Aston Manor Urban District.—Mr. Henry May, in his annual report for 1896—which, by the way, is the first printed report for that year we have received—draws attention to the extent to which inefficient vaccination prevails in his district, many "vaccinated" children presenting, he tells us, but one small cicatrix. It would surely be better for the cause of vaccination if medical men who thus bring children within the ranks of the "vaccinated" were to refuse to perform the operation unless they are allowed to procure proper protection. Mr. May points out that although the only efficient manner of controlling small-pox is by vaccination and re-vaccination, it will be necessary in Aston, owing to the neglect of this precaution, to do what can be done to increase the isolation accommodation for small-pox, and the sanitary authority have, it appears, procured a site remote from habitations for the erection of a small-pox hospital. Diphtheria during 1896 showed a very marked increase in Aston Manor; in fact, it appears to have shown a similar behaviour in this respect as in Birmingham, upon which district it abuts. An attempt was made in 1896, possibly on account of the success of a somewhat similar case in Birmingham, to obtain damages from the district council owing to the occurrence of a "return" case of scarlet fever. The council, however, refused to recognise any responsibility and instructed their clerk to defend any action which might be brought. No more was heard of the case.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6715 births and 3970 deaths were registered during the week ending Feb. 20th. The annual rate of mortality in these towns, which had been 20·8 and 19·6 per 1000 in the two preceding weeks, further declined last week to 18·8. In London the rate was 17·8 per 1000, while it averaged 19·5 in the thirty-two provincial towns. The lowest rates in these towns were 13·7 in West Ham, 14·2 in Brighton, 14·9 in Huddersfield, and 15·1 in Portsmouth; the highest rates were 23·2 in Salford, 23·8 in Liverpool, 25·1 in Burnley, and 25·8 in Preston. The 3970 deaths included 316 which were referred to the principal zymotic diseases, against 361 and 337 in the two preceding weeks; of these, 94 resulted from whooping-cough, 59 from diphtheria, 55 from measles, 45 from diarrhœa, 40 from scarlet fever, 22 from "fever" (principally enteric), and 1 from small-pox. No death from any of these diseases was recorded last week either in Birkenhead or in Halifax; in the other towns they caused the lowest death-rates in Sunderland, Swansea, and Derby, and the highest rates in Gateshead, Plymouth, Bolton, and Salford. The greatest mortality from measles occurred in Salford, Gateshead, Bradford, Bolton, and Plymouth; and from whooping-cough in Salford, Huddersfield, Gateshead, Bristol, Blackburn, and Burnley. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 59 deaths from diphtheria included 40 in London, 2 in West Ham, 2 in Cardiff, and 2 in Birmingham. One fatal case of small-pox was registered in London, but not one in any other of the thirty-three large towns. There were 34 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, the 20th inst., against 9, 21, and 38 at the end of the three preceding weeks; 3 new cases were admitted during the week, against 7, 12, and 20 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2901, against 3311, 3153, and 3050 on the three preceding Saturdays; 227 new cases were admitted during the week, against 254, 245, and 226 in the three preceding weeks. The deaths from diseases of the respiratory organs in London, which had been 404 and 373 in the two preceding weeks, further declined to 335 last week, and were 149 below the corrected average. The causes of 54, or 1·4 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Portsmouth, Bradford, Leeds, Sheffield, Newcastle-upon-Tyne, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Norwich, Preston, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 24·3 to 28·8 per 1000, declined again to 25·5 during the week ending Feb. 20th, but was 6·7 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 19·9 in Edinburgh and 21·7 in Dundee, to 29·4 in Glasgow and 30·7 in Perth. The 761 deaths in these towns included 45 which were referred to whooping-cough, 42 to measles, 22 to diarrhœa, 4 to scarlet fever, 4 to "fever," and 2 to diphtheria; in all, 119 deaths resulted from these principal zymotic diseases, against 96 and 105 in the two preceding weeks. These 119 deaths were equal to an annual rate of 4·0 per 1000, which exceeded by 2·5 per 1000 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had increased in the four preceding weeks from 26 to 39, further rose to 45 last week, and included 33 in Glasgow, 8 in Edinburgh, and 3 in Perth. The deaths referred to measles, which had been 28 and 31 in the two preceding weeks, further increased to 42 last week, of which 38 occurred in Glasgow and and 2 in Aberdeen. The 4 fatal cases of scarlet fever showed a slight further decline from the numbers recorded in recent weeks, and included 2 in Glasgow. The deaths referred to different forms of "fever," which had been 4 and 7 in the two preceding weeks, declined again to 4 last week, of which 3 occurred in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 229 and 240 in the two preceding weeks, declined to 218 last week, but exceeded by 113 the number in the corresponding period of last year. The causes of 37, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 44·2 and 41·2 per 1000 in the two preceding weeks, rose again to 43·4 during the week ending Feb. 20th. During the past seven weeks of the current quarter the death-rate in the city has averaged 40·7 per 1000, the rate during the same period being 18·8 in London and 22·1 in Edinburgh. The 291 deaths registered in Dublin during the week under notice showed an increase of 15 upon the number in the preceding week, and included 72 which were referred to the principal zymotic diseases, against 52 and 58 in the two preceding weeks; of these, 43 resulted from measles, 16 from whooping-cough, 5 from scarlet fever, 5 from "fever," 2 from diarrhœa, and 1 from diphtheria. These 72 deaths were equal to an annual rate of 10·7 per 1000, the zymotic death-rate during the same period being 1·4 in London and 2·3 in Edinburgh. The fatal cases of measles, which had increased from 7 to 26 in the three preceding weeks, further rose to 43 last week. The deaths referred to measles, which had been 24 and 25 in the two preceding weeks, declined to 16 last week. The 5 fatal cases of scarlet fever exceeded by 3 the number in the preceding week, and the 5 deaths referred to "fever" exceeded those recorded in any recent week. The 291 deaths registered in Dublin last week included 59 of infants under one year of age, and 48 of persons aged upwards of sixty years; the deaths of infants showed an increase, while those of elderly persons were below those recorded in any recent week. Three inquest cases and 6 deaths from violence were registered; and 83, or more than a fourth, occurred in public institutions. The causes of 29, or nearly 10 per cent., of the deaths in the city last week were not certified.

THE *Glasgow University Magazine* states that the Students' Representative Council have passed, among others, the following recommendation: "That a petition be sent to the Senate begging them to request the University Court to make such arrangements with the managers and directors of the Western Infirmary as will enable the Professor of Materia Medica and Therapeutics to teach, not only theoretically, but also clinically, so important a branch of medical science as therapeutics."

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON-MAJOR R. H. S. SAWYER has been ordered to Dublin for duty. Surgeon-Captain E. Eckersley embarks for service on the West Coast of Africa. Surgeon-Major D. O'Sullivan has embarked in the transport *Dunera* for Bombay.

Brigade-Surgeon-Lieutenant-Colonel Edmond Townsend, M.D., to be Surgeon-Colonel, vice M. Cogan, retired. The under-mentioned Surgeon-Lieutenant-Colonels retire on retired pay:—H. J. Robbins, M.D., Isaac Boulger, Thomas Boyd, Joseph J. Lamprey, Phineas B. Tuthill, M.D., F.R.C.S. Irel., and John P. Hunt, M.D., F.R.C.S. Irel. The surname of Surgeon-Lieutenant L. Addams-Williams is as now and not as stated in the *Gazette* of Feb. 16th, 1897.—*London Gazette.*

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Captain F. Wyville-Thomson, Bengal Establishment, is appointed to be Medical Officer, Lawrence Military Asylum, Sanawar, vice Surgeon-Captain C. H. Bedford. Surgeon-Major W. F. A. Street, D.S.O., and Surgeon-Captain A. J. Heath, have respectively delivered over and received charge of the office of Deputy Sanitary Commissioner, Central Registration District. Surgeon-Captain A. E. Smithson, A.M.S., is appointed to the Civil Medical Charge of Ranikhet, in addition to his military duties. Surgeon-Captain S. B. Smith, Bengal Establishment, whose services have been placed temporarily at the disposal of the Chief Commissioner, Central Provinces, by the Government of India, Home Department, is posted to the Jubbulpore District on special famine duty. Surgeon-Lieutenant C. Thomson, Bengal Establishment, whose services have been temporarily placed at the disposal of the Chief Commissioner of India, Home Department, is posted to the Sangor District on special famine duty.

The Queen has approved of the following admissions to the Indian Medical Services:—To be Surgeon-Lieutenants: Andrew Augustine Frayne McArdle, Jasper Maxwell Woolley, Clayton Arbuthnot Lane, Thomas Bernard Kelly, James Henry Hugo, William Hamilton Kenrick, Charles Henry Watson, Charles Hope Septimus Lincoln, Raymond Herbert Price, Edgar Francis Eardley Baines, Geoffrey Orr Fern Sealy, and Reginald Bryson.—*London Gazette.*

NAVAL MEDICAL SERVICE.

The following appointments are notified:—Staff Surgeon: John Jenkins to the *Calliope*. Surgeons: Sidney Croneen to the Royal Marine Depôt, Walmer; Rowland A. Kirby to the *Victory*, additional; Alfred H. L. Cox to the *Alecto;* and Frederick J. Burns, M.D., to the *Wildfire.*

The following Surgeons have been promoted to the rank of Staff Surgeons in Her Majesty's Fleet:—Henry Erskine South, Alfred Matthew Page, Alfred Cropley, John Jenkins, Horace Elliott, Ernest Denman Minter, and Robert Forbes Bowie.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major E. Shedd to be Surgeon-Lieutenant-Colonel. Surgeon-Captain H. H. Smith, having resigned his appointment in the Volunteers, ceases to be an officer of the Army Medical Reserve.

VOLUNTEER CORPS.

Rifle: 8th Volunteer Battalion the Royal Scots (Lothian Regiment): Ronald Cadell Macdonald, M.B., to be Surgeon-Lieutenant. 1st Volunteer Battalion the Prince Albert's (Somersetshire Light Infantry): Surgeon-Lieutenant F. Lace to be Surgeon-Captain. 4th Volunteer Battalion the Cheshire Regiment: Eugene Charles McCarthy, M.B., to be Surgeon-Lieutenant. 1st Wiltshire: Herbert Lorraine Earle Wilks, gent., to be Surgeon-Lieutenant. 4th (Stirlingshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): John Gilfillan Ronald, M.B., to be Surgeon-Lieutenant. 8th Middlesex: Edmund Ultain Frederick MacWilliam Bourke, gent., to be Surgeon-Lieutenant. 1st Tower Hamlets: Surgeon-Lieutenant J. P. Simpson, M.D., to be Surgeon-Captain.

VOLUNTEER MEDICAL STAFF CORPS.

The Glasgow Companies:—Quartermaster William Kidston resigns his commission.

THE SERVICE EXAMINATIONS.

The following is a list of successful candidates for commissions in the Army Medical Staff and Indian Medical Service at the recent examinations in London:—

ARMY MEDICAL STAFF.

Name.	Marks.	Name.	Marks.
S. L. Cummins	2272	J. G. Walker	2005
C. H. Hopkins	2207	H. G. F. Stallard	1948
J. McArdle	2159	Q. D. Jephson	1887
P. Mackessack	2158	H. L. W. Norrington ...	1876
L. J. C. Hearn	2143	J. Poe	1847
J. McD. McCarthy	2065	J. Crean	1828
E. Brodribb	2055	R. W. N. Bowen	1809

INDIAN MEDICAL SERVICE.

Name.	Marks.	Name.	Marks.
F. G. P. Murray	2823	J. A. Dredge	2574
S. Anderson	2814	R. W. Knox...	2530
F. H. G. Hutchinson ...	2646	R. Fenton	2506
J. L. Marjoribanks	2603		

THE MILITARY WORKS BILL.

We are very glad that the system upon which the House set its seal in 1890 to replace barracks which were worn out or insanitary by barracks fit for the habitation of troops is to be continued. With reference to the provision of barracks it was, said Mr. Brodrick, impossible to over-rate the importance of the proposals of the Government. It was a scandal to see that the huts erected at Aldershot, the Curragh, and other places had been allowed to continue so long. They were in an insanitary condition and, he was afraid, not free from vermin. He was glad that they were about to make provision for better quarters for their soldiers generally, and especially for the married soldiers. The work that has either been already completed or is going on at our home and foreign stations is very considerable, and includes barrack or hospital accommodation at Bermuda, Gibraltar, Halifax, Malta, the Cape, Mauritius, and Hong-Kong abroad, and at a great many of our large camps and stations in this country.

PROFESSOR DELORME.

Among contemporaneous military surgeons few names are better known than that of Médecin-Principal Edmond Delorme, who so ably occupies the chair of Clinical Surgery in the Val-de-Grâce School. At a recent election to fill a vacancy in the Académie de Médicine this distinguished officer obtained 70 votes out of a possible 74, a fact which affords conclusive proof not only of his professional merit but also of his personal popularity. Born at Luréville in 1847 Dr. Delorme entered the army in 1866 and has served continuously ever since. In 1871 he took his M.D. degree at the Faculty of Paris, and six years later competed successfully for admission into the professorial fold. In addition to carrying off a great number of the prizes offered by the Académie de Médecine and the Institut de France, he is likewise a frequent contributor to periodical literature; but the work by which he is best known to fame in his History of French Military Surgery, published in two volumes by Alcan.

THE BENIN EXPEDITION.

We always seem to have some small war or other on hand. A punitive expedition to Benin after what had taken place was, of course, required, and it has been most successfully carried out with a relatively small loss of life. We much regret to notice the name of Surgeon C. J. Fyfe, R.N., of the *St. George* among the killed. With the capture of Benin we do not appear to have succeeded in capturing the king of that place; but let us hope that there will henceforth be an end of the fetich sacrifices and human massacres of which our sailors had such gruesome evidences on entering Benin.

DEATHS IN THE SERVICES.

Surgeon-Major E. R. Power, A.M.S., aged forty-two years. He was appointed Surgeon in 1878, and was promoted to the rank of Surgeon-Major in 1890. For his services in the Egyptian War of 1882 he obtained the Medal and Khedive's Star. He also held the Soudan Clasp of 1885 for the Soudan Campaign, in which he also served.

At a meeting of the Service Member's Committee of the House of Commons last week the Contagious Diseases Acts and other important matters were discussed.

Her Majesty has conferred the Distinguished Service Order upon Surgeon-Major G. D. Hunter, A.M.S., for services with the Egyptian Army.

Surgeon-Colonel Ross, Inspector-General of Civil Hospitals, Bengal, has been granted eight months' furlough.

Correspondence.

"Audi alteram partem."

THE MIDWIVES REGISTRATION BILL.

To the Editors of THE LANCET.

SIRS,—I shall be glad to be allowed to explain to the profession one or two points in reference to the Bill which appear to have been somewhat misunderstood. First, with regard to the omission of the words "natural labour," you have so fully recognised this as an improvement on previous Bills that I need not occupy your space with the reasons that weighed with the committee in making the alteration further than by saying that it was guided very much by the considerations to which you call attention and also by the conviction that Parliament is not the most suitable place for discussing what is and what is not "natural labour." Such a duty seems more appropriately assigned to the Midwives Board. The same considerations led the committee to avoid any attempt to lay down precise rules for regulating the education, examination, and discipline of midwives. The duty of formulating these rules is that for which the Board is specially called into existence. Details of this kind are out of place in an Act of Parliament.

With regard to Dr. Rentoul's point as to the absence under the Bill of power on the part of the General Medical Council "to take any part in arranging the plan for the education of intending midwives," there is no disposition on the part of the framers of the Bill to restrict the powers of the General Medical Council; indeed, the Board is under its general superintendence (Clause 5, i.). It is distinctly stipulated that all the rules and regulations for the practice of midwives must be "approved" by the General Medical Council, and if the General Medical Council does not approve of any of the regulations or of the general policy of the Midwives Board it can withhold consent to its action until it does approve or until the Privy Council has decided the matter. If the addition of the words "or otherwise" would make this still clearer by all means let them be inserted.

Two other points remain to be considered—namely, the constitution of the Board and the appointment of a local supervising authority. With regard to the former I can scarcely think, in the light of recent events, that Dr Rentoul's plea for the direct representation of the medical profession on the Midwives Board is likely to meet with general support. The appointments are surely better left in the hands of responsible bodies such as those named in the Bill. Dr. Rentoul has omitted to notice that the six persons to be appointed by the Lord President of the Council need not be medical practitioners and need not even be all of the same sex. These six persons represent the public and are to safeguard its interests. Without them the Board would be too exclusively professional. Lastly, with respect to the appointment of the medical officer of health as the local supervising authority the precise wording is as follows: "Every local sanitary authority ..... shall appoint its medical officer of health or other registered medical practitioner or practitioners as the local supervising authority over midwives in the sanitary district." If, therefore, the medical officer of health does not care for the remuneration or for the work he need not be appointed. As a rule, however, he will probably be found to be the most suitable person, especially as he has offices and staff at command. Dr. Rentoul's amusing remark that "this Bill is, of all its predecessors, the most dangerous" may be left to take care of itself. Surely, however, none of your readers will be influenced by the reiterated assertions which Dr. Rentoul puts forward in the place of arguments. One or two of the statements he makes in his letter I have already taken occasion publicly to deny. They ought not to have been repeated.—I am, Sirs, yours truly,

ROWLAND HUMPHREYS,
Honorary Secretary, Midwives Bill Committee.
Buckingham-street, Strand, W.C., Feb. 22nd, 1897.

To the Editors of THE LANCET.

SIRS,—As there is no evidence that the Parliamentary Bills Committee of the British Medical Association has taken, or is about to take, any action with respect to Mr. Tatton Egerton's Bill for the registration of midwives, at present before the House of Commons, the council of our branch has determined not to share in such apathy and in such utter disregard of the frequently expressed wishes of the Members of the British Medical Association. At a recent meeting of the council of our branch the following resolutions were adopted: "(*a*) The Council of the Lancashire and Cheshire Branch of the British Medical Association disapproves of Mr. Tatton Egerton's Bill for the registration of midwives and will endeavour to prevent its passing into law; (*b*) that five members of the council be, and are now, appointed as a deputation to wait upon the Lancashire and Cheshire members of Parliament urging them to oppose the second reading set down for Feb. 26th or any future date; (*c*) that the members of the deputation be requested to draw up a circular pointing out the objections to the Bill and the reasons for opposing it, such circular to be sent to every member of the House of Commons and the House of Lords. The members of the deputation are Dr. Brierley, Dr. Macfie Campbell, Dr. Gledhill, Dr. Arthur Helme, and Dr. Woodcock. Dr. Helme will also act as secretary to the deputation.—I am, Sirs, yours faithfully,

JAMES BARR,
Honorary Secretary to the Lancashire and Cheshire
Feb. 20th, 1897. Branch of the British Medical Association.

To the Editors of THE LANCET.

SIRS,—Will you allow me, on the near approach of the second reading of the above-named Bill, to say, as one loyal to our profession and at the same time deeply solicitous for "the poor" (in whose interest, the memorandum on the Bill informs us, it is "especially" propounded), that I protest against it, first, as being unstatesmanlike in that it deliberately avoids taking the best and surest guarantees for the well-being of the nation's mothers and for the nation's perpetuation in its preference for cheap and nasty substitutes; and, secondly, as being retrograde in its proposal to lower the standard of medical service, even beneath present Poor-law regulations, by instituting an inferior, incompletely trained body of midwifery practitioners, who shall be foisted, under State sanction and armed with diplomas, upon the poorest and most ignorant of the populace. It would provide, not, indeed, "especially"—as the memorandum falsely pretends—but *only* for the poor, and *only because they are poor*, in their hour of need, when contributing with the fruit of their bodies to the nation's continuance and growth, the attendance of a body of women by intention so imperfectly trained that no single man of the well-to-do promoters or supporters of the Bill would for a moment entrust his own women to their care, nor would the fine society ladies who are so loud in its favour ever dream of leaving their precious selves in such ignorant hands. This consideration ought, I think, by itself to condemn the measure. The truth, of course, is that the life and well-being of all citizens, be they of high or of low degree, rich or poor, are alike the concern of the State, while the claims of humanity are not diminished but increased and intensified by poverty. By all means let us have nurses galore trained for lying-in, as for medical and surgical, cases, but let them be prohibited from undertaking attendance on confinements *except as awaiting the supervision of a qualified practitioner*, who shall be held primarily responsible. For patients too poor to pay let such thoroughly skilled professional service be secured by means of dispensaries, maternity hospitals and clubs, and by freer recourse to the excellent provisions of the Poor-law. Those three forms of existing voluntary agencies should be generally extended, better organised, and, if need be, rate-aided and brought under popular control. Every parish or other suitable district, every church and chapel, might have its maternity club, worked on the same lines as clothing and coal clubs. Under the Poor-law relieving officers and overseers can grant orders available, not only for the Poor-law medical officers, but for any medical man or woman who can be found to respond to the call, and, indeed, in a case of emergency no order at all is requisite, but the guardians can pay the medical man's fee when they are satisfied that the patient is unable to do so. No stigma of pauperism, no disfranchisement, or other social ban attaches to such medical relief. It is the statutory right of the impoverished citizen. Let us, then, throw ourselves into a sane, honest, and truly humane movement to make all the existing machinery more general and effective. Let us, above all—Members of Parliament, medicals, and

citizens at large—refrain from doing unto *other men's* wives that which we would not do unto *our own*.

I am, Sirs, yours faithfully,

Lofthouse-place, Leeds, Feb. 23rd, 1897. THOS. M. WATT.

SLOW PULSE AND SYNCOPAL ATTACKS.

To the Editors of THE LANCET.

SIRS,—I would like to express my appreciation of Dr. Ogle's most interesting paper on Some Cases of Unusual and Persistent "Slowness" of Pulse, presumably dependent upon Interference with the Intrinsic Nerves and Ganglia of the Heart in THE LANCET of Jan. 30th. I have considered the subject briefly in one of my recent lectures on Angina Pectoris and Allied States. I was particularly interested in the original description by Stokes and Adams of those cases of slow pulse in which cerebral symptoms developed—what Stokes called false or pseudo-apoplexy. While vertigo and syncope are the two most common associated features, epileptiform attacks may develop, as in two of Dr. Ogle's cases, as well as in those of Dr. St. George Mivart and Dr. Gibbings, to which he refers. They have also been described by Dr. Kinnicutt in a case in which the pulse was between 30 and 40, and during the attacks as low as 13, and once 7.[1] Dr. Jacobi at the same meeting referred to cases with convulsive seizures. In the case of J. W——, given in my lectures, I have recently had a note from his physician stating that Mr. W—— has as many as twenty-five attacks of vertigo and transient losses of consciousness in the day, and that his pulse now is permanently at 30 per minute.

A very interesting feature is the long duration of some of the cases. I saw in October a man, aged seventy-four years, who had been told thirty years ago that he had serious heart trouble and that his pulse was only 50 per minute. It remained slow until two or three years ago. In 1891, following a good deal of effort in preaching, he had an attack of angina pectoris, after which the pulse for three days beat at less than 38 to the minute. When I saw him he had cardiac dyspnœa without the bradycardia; he died suddenly one night. In another case, seen on Dec. 14th, the patient, a man, aged sixty-five years, had a pulse of 40 per minute. He had had two attacks of prolonged unconsciousness, one in June, 1895, after which he felt a good deal dazed, and the other in June, 1896, when he was unconscious for twenty minutes.

Huchard's discussion of this syndrome, or, as he calls it, "maladie Stokes-Adams," is most interesting and deserves more attention than it has received from English writers. I do not know the source of the statement made in my text-book (to which Dr. Ogle refers) as to Napoleon's epilepsy. Part at least of the vocation of an author of a work of that kind is "endless imitation," though I have tried in many points to go to original sources. Those acquainted with Archbishop Whately's famous pamphlet, "Historic Doubts Relative to Napoleon Bonaparte," will feel thankful to Dr. Ogle that he has left two at least of the three interesting medical features in the history of that great man.

I am, Sirs, very truly yours,

Feb. 12th, 1897. WILLIAM OSLER.

P.S.—It is possible that Colonel Townshend's case belongs to this remarkable group ("English Malady," second edition, p. 307). The disappearance of the pulse was associated with syncope. Colonel Townshend's statement, as given by Dr. Cheyne, was that "he could die or expire when he pleased, and yet by an effort or somehow he could come to life again, which it seems he had sometimes tried before he had sent for us." The physicians in attendance were very unwilling that he should make the trial in his weak state, but he insisted. His pulse became more and more feeble until it disappeared. He remained pulseless and breathless for about half an hour, and then he began to breathe quietly and speak softly. This was at 9 A.M., and he died at five o'clock the same evening. Apparently this is the only reference in literature to Colonel Townshend's case. I have tried in vain to get any other information as to his supposed power of stopping the action of the heart. It is not even mentioned whether he had ever tried it before his final illness in Bath. The necropsy showed a chronic tuberculous disease of the right kidney, a condition often associated with hypertrophy of the heart.

[1] Transactions of the Association of American Physicians, vol. iv.

"AN UNUSUAL CASE OF TUBAL ABORTION."

To the Editors of THE LANCET.

SIRS,—In connexion with this case[1] I have to plead once more that a correct nomenclature is of importance even in gynæcology. The case as narrated is one of tubal pregnancy with recurrent hæmorrhage through the ostium. Tubal abortion it most certainly was not. Had abortion occurred the products and the clot would have been speedily absorbed and no operation would have been necessary. Mr. Sutton's nomenclature is another example of the confusion I predicted when he first introduced the phrase "tubal abortion."

I am, Sirs, yours truly,

Birmingham, Feb. 20th, 1897. LAWSON TAIT.

HOSPITAL FOR INCURABLE FISTULÆ, &c.

To the Editors of THE LANCET.

SIRS,—When the question of distributing the enormous funds which must shortly accrue to the hospitals through the energy of the Prince of Wales, aided by the zeal of the daily papers, duly arises, I trust that the numerous class of most unhappy sufferers for such maladies as the above will not be lost sight of. They are not relieved by any of the existing institutions, which must of necessity refrain from admitting into their wards patients whose lesions emit offensive effluvia and are not quickly remediable by operation. These "pariahs," chiefly female, are usually too poor to pay for the costly personal attention they really need, and hence are a life-long burden to themselves and their friends. A special home for such is a real and urgent want, as I am sure scores of medical practitioners will readily testify. The present year of jubilee would seem to offer an opportunity of remedy.

I am, Sirs, yours faithfully,

Gloucester-place, W., Feb. 13th, 1897. HERBERT SNOW.

"A QUESTION FOR ANÆSTHETISTS."

To the Editors of THE LANCET.

SIRS,—Mr. Lucas's "Question for Anæsthetists" has long been an interesting one to me. For many years past I have always scalded my ether apparatus out after using it. I find two advantages from this: one, the apparatus lasts longer, for nothing in my experience spoils rubber and metal quicker than moist, foul mucus; the other is that I feel that I have not put over my patient's face an apparatus that I would not like to have put over my own. As to the question of causing pneumonia by direct contagion, I think the answer is in the negative, otherwise that disease would be infinitely more common than it is. I believe that the irritation of the ether so injures the mucous membrane of the lungs that a doorway for the bacillus to enter is opened. I suppose, too, that the bacillus pneumoniæ is fairly common in the dust and air, more especially in hospitals where cases of the disease are nearly always present. Of two persons on an athletic sports ground who get chilled or wet, the one who has undergone the fatigues of a race is more likely to get pneumonia than he who is a mere spectator of the race. So here we have a patient depressed by the fear of the operation, by the operation itself, and when we add the intense hyperæmia and even congestion caused by the ether it is no wonder if the bacillus takes up its abode in such a suitable soil as the injured mucous membrane. I am under the impression that so long as we have to deal with a strong irritant like ether we shall have cases of pneumonia following its use, but I do not think they are many in number. Mr. Lucas's "question," however, will do good if its answer is the increasing care by anæsthetists of cleanliness in their work.

I am, Sirs, yours faithfully,

F. WILLIAM COCK, M.D. Durh.

Porchester-houses, W., Feb. 23rd, 1897.

"AN UNUSUAL RESULT OF ABORTION."

To the Editors of THE LANCET.

SIRS,—On Jan. 24th a patient of mine had an abortion starting with sharp labour pains and profuse hæmorrhage. A

[1] THE LANCET, Feb. 13th, 1897, p. 432.

fœtus of from fifteen to sixteen weeks was expelled enclosed in an unruptured amniotic sac (with liquor amnii) forming a perfectly transparent envelope without any chorionic or placental tissue. The cord was torn through at the placental insertion and the torn end appeared at the bottom of a depression in the amniotic sac. The placenta was partly adherent to the uterine wall and had to be removed by the finger. During the pregnancy there had been periodic losses of blood. As this was an unusual condition I preserved the specimen with a view to sending it later to a museum. I find now that it agrees with the description in Dr. Purslow's note in THE LANCET of Feb. 13th.

I am, Sirs, yours faithfully,

Appledore, Devon. ALLAN MAHOOD.

"SHOULD EPILEPTICS MARRY?"

To the Editors of THE LANCET.

SIRS,—Dr. Gowers sees no reason to believe that accidental lesions are transmitted and asks me to quote instances. 1. A. B., aged ten years, had one eye destroyed by the lace of a football. His children all had that eye smaller and weaker than the other. 2. C. D. asked me to look at the eyes of his children. He thought they all squinted. The right eye in each case was measurably smaller than the left. C. D., when eight years of age, had his right eye rendered sightless by a needle in a dart thrown by a playfellow. 3 E. F. lost an eye in childhood. His daughter had defective sight; his grandchild is blind. 4. G. H. had his right little finger entangled in a rope when seven years of age and permanently deformed. His children all inherit the deformity.

These cases, amongst others, came under my own observation. I would also refer those who are interested in this subject to an article by Dr. Brown-Séquard,[1] in which he gives many instances as the result of experiment and remarks: "I have never seen epilepsy (in guinea-pigs) except in those having had certain injuries able to produce that nervous complaint, or *in the young born of those injured and therefore epileptic animals.*" As a result of his observation and experiments he concludes: "These facts, added to others mentioned by P. Lucas and Darwin, clearly prove the possibility of hereditary transmission of effects of mere accidental injuries."

The case quoted by Dr. Langworthy[2] is remarkable. He delivered a child whose right eye and right arm were wanting. The father had lost his right eye and had been wounded in the right arm. Dr. Clark[3] attended a child with a stiff knee-joint bent exactly in the same position as the father's, which was also stiff. But it is unnecessary to multiply instances, which abound in the writings of Darwin, the late Professor Rolleston, and others whose observation was keen enough to detect them. If any meaning is to be attached to the term "heredity" it is difficult to exclude the operation of accidental causes or we should be almost driven into the belief that hereditary qualities have always been the "property" of the family in which they occur and have never had an origin. With all due deference, therefore, to Dr. Gowers I consider that a physician is not justified in advising an accidental epileptic to marry or in offering him any prospect of immunity for his possible off-spring. I am, Sirs, yours truly,

Feb. 22nd, 1897. WILLIAM G. THISTLE.

THE LATE MR. GEORGE POLLOCK.

To the Editors of THE LANCET.

SIRS,—It may be of interest to record that Mr. George Pollock was in his youth a pupil of the Rev. W. C. Twiss at Wrestlingworth, Beds. The Rev. Mr. Twiss was a man of great originality and humour, and he loved to recount with gusto the escapades of his brilliant pupil. The attachment between the two was very great, and during the last illness of Mr. Twiss, who died in 1888, at the age of ninety years, Mr. Pollock made a special journey down to see him—forty-one miles by rail and seven by road—when himself at the age of seventy-one years. The meeting was not without its pathetic side, and Mr. Pollock afterwards contributed a most touching and affectionate account of the life of his old friend to the *Bedfordshire Press*. I am, Sirs, your truly,

Biggleswade, Feb. 2rd, 1897. J. B. EMMERSON.

[1] THE LANCET, Jan. 2nd, 1875.
[2] THE LANCET, Jan. 26th, 1850.
[3] Medical Times and Gazette, Sept. 5th, 1857.

THE NEW THEORY OF MALARIA.

To the Editors of THE LANCET.

SIRS,—Dr. Bignami, in his most interesting article summarising the different hypotheses to account for the infection of human beings by the malarial organisms, including the comparatively new theory of inoculation by mosquitos, gives facts which appear to militate against the ground air theory. My object in writing is to ask for a little more light on one of the facts. Great stress is laid upon the experiments showing that it is impossible to pass organisms contained in air through earth, and especially is it difficult to do so when the earth is saturated with water. It seems to me possible to hold that the rainfall increases malaria by raising the subsoil water and so the malarial organisms are forced out of the damp soil where they are produced to the surface in water, and when the water subsides the organisms are retained at the surface. Buchner's theory of the breaking up of the liquid lamellæ scattering the organisms into the ground air would explain, as pointed out by the writer, the passage of the organisms from the surface into the air. Can facts be given disproving the theory of the forcing upwards through the soil of malarial organisms contained in water? I have never heard of earth-worms being considered as vehicles for the passage of malarial organisms to the surface, and yet I see no reason for ignoring them.

Malaria was at one time prevalent in certain parts of England. Were mosquitos to be found in England then? Even now occasional cases of ague are to be found in Kent, Essex, Suffolk, and Lincolnshire. At the great outbreak of malarial disease at Paris, when the Canal St. Martin was excavated, were mosquitos concerned in spreading the malarial organisms?

In 1885 I suggested that the immunity to yellow fever noticed among the negro race and acclimatised Europeans was probably due to a state of the blood the result of malarial poisoning, and in a paper on Immunity which I read to a medical association I suggested that the serum from persons suffering from malaria should be tried in yellow fever. I have since thought that the serum of pigeons affected with the malarial parasites would be more suitable for experimental purposes.—I am, Sirs, yours truly,

HENRY ALSTON,

Feb. 3rd, 1897. Trinidad Medical Service.

THE CONTAGIOUS DISEASES ACTS.

To the Editors of THE LANCET.

SIRS,—In the present state of agitation for the resumption of these Acts in India and the East it may help to strengthen the hands of those interested in this subject if I give, as shortly as possible, the result of my experience of their action during my tenure of office of colonial surgeon and inspector of hospitals in Hong-Kong from 1858 to 1871, during which time they were carried out under my immediate superintendence. The principal medical officers of both navy and army loyally supported me in the matter, and had it been the duty of the health officer of the port to inspect all merchant seamen venereal disease might have been nearly stamped out. No leave was granted to seamen of the Royal Navy without previous medical inspection and detention in hospital if found diseased. The soldiers were carefully watched by their own medical officers, and the whole of the police force underwent a special medical examination once a month. All merchant seamen known to be diseased residing in any boarding-house were obliged under a heavy penalty to be reported to the harbour master and transferred to hospital. All known prostitutes, with the exception of a few Europeans and some half-caste Portuguese who ought not to have been exempted, were examined on an average once a week and if found diseased were detained in hospital; and very few, once I had got the system in proper working order, made any objection, soon being satisfied that it was for their advantage to be so dealt by.

Now what was the sanitary result of all this elaborate machinery? In 1859 both among naval and military invalids the syphilitic amounted to nearly 25 per cent. of the whole,

and there was very nearly the same proportion in the Government Civil Hospital. In one crew numbering in all 523 hands, of which 300 had been on the sick list during the last quarter, seventy-seven of these were for venereal diseases, being at the rate of 25·66 per cent. of the total sick, or 14·72 per cent. of the total strength, and that, be it remembered, in a single quarter. In the Government Civil Hospital the proportion of venereal cases was 138 out of 591 admissions, being in the proportion of 23·18 per cent. Exactly ten years later, in 1869, as the result of the working of the Contagious Diseases Acts, that disease had greatly decreased. In the Government Civil Hospital, even in spite of the great number of cases sent in by the harbour master, the percentage of syphilitic cases was reduced to 15·82. In the garrison the percentage of primary disease to the total strength was only 6 83, according to a return furnished me by Dr. Heffernan, Deputy Inspector-General. In the police it was 16·66 against 31·00 per cent. in 1862.

Dr. Maccoun, of the United States ship *Delaware*, on the eve of his departure from the colony, wrote me under date March 12th, 1870, a letter, from which I take the following extracts:—"Since my arrival on this station in the spring of 1868 I have been struck with the benefit derived from the system of registration and inspection of public women so ably carried out in this colony." "During our visits to Hong Kong but few have been infected, and the type of the disease is mild." "Out of a crew of 470 men, only five cases of chancre have been noticed." Dr. W. Home, Principal Medical Officer of the Army, wrote:—"On behalf of the army medical officers stationed here, I have pleasure in expressing to you the great advantage we have received from the excellent sanitary arrangements in force in regard to prostitution." "Venereal disease, from being but a few years ago one of the most common causes of unfitness for duty here has now become of comparatively rare occurrence." Inspector-General Robert Pottinger was still more emphatic and wrote on Dec. 28th, 1870:—"During the years 1849, 1850, and 1851 I was surgeon of the *Reynard* sloop of war on the China station, and though, unfortunately, I am not in possession of my journal for that vessel, I have a vivid remembrance of the sufferings of the crew from syphilitic disease in Hong-Kong. On every occasion when the men had leave ashore, a large proportion of them became affected with the disease, which showed itself in the form both of hard chancre and large, phagadenic sores. Secondary symptoms were also of frequent occurrence, often requiring the patients to be invalided and sent home. The altered state of things at the present time is very striking. During the past nine months that I have had charge of this hospital I have not seen a case of regular Hunterian chancre contracted in Hong Kong, and only a few soft sores which healed readily. Judging from my own experience I should say that syphilis has *all but* disappeared from the colony." Surely the foregoing evidence is sufficient to convince all unprejudiced persons that it is possible to a great extent to reduce, if not to entirely prevent, the spread of this disease by legislative measures. In this short notice I have not entered into any of the questions, moral, sentimental, or otherwise, or the system on which the examinations were based and which met with the unanimous approval of naval medical officers of many different nations; I have limited my remarks to the plain statement of facts, which if required I can greatly extend. I am, Sirs, yours faithfully.

Scarborough, Feb. 22nd, 1897. IVOR MURRAY, M.D. Edin.

HOSPITAL REFORM ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—Now that the subject of Hospital Reform has been fairly placed both before the public and the profession it seems a fitting time to sketch out what our line of action should be in the future. In the first place it is very desirable that the memorial that we have prepared for presentation to the Royal College of Physicians of London should receive the signatures of a large number of practitioners. Sir William Broadbent has stated that a searching and dispassionate inquiry is very desirable, and it would be difficult to find a body better qualified to conduct such an inquiry than the Royal College of Physicians of London. In times gone by many of the most distinguished Fellows of that College took a very warm interest in the question of Hospital Reform; and it is to be sincerely hoped that the same interest will be taken by those Fellows of the College who may be fairly termed leaders of the profession at the present time. The letters of your Special Commissioner have shown that hospital abuse is just as prevalent in some of our large provincial towns as it is in the metropolis, and it will, therefore, be necessary to extend the investigation beyond the limits of London. My association purposes at an early date to organise meetings of the profession in Liverpool, Manchester, Birmingham, Leeds, and Bristol in order that the subject may be thoroughly discussed. May I, in conclusion, make an appeal to the profession to join our ranks? To carry on the work we have undertaken requires both men and money, and although we have no reason for being despondent concerning our future, yet we feel that to ensure success we must have a larger following than we possess at present.

I am, Sirs, faithfully yours,

Cardiff, Feb. 13th, 1897. T. GARRETT HORDER.

HUMANISED MILK.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if any of your readers who have special knowledge on the point could give me an authoritative answer to the following question:—Is the exclusive use of "humanised milk," as supplied by the large dairy companies, liable to produce rickets or scurvy-rickets in infants?—I am, Sirs, yours faithfully,

JOHN MACKERN, M.D. Camb., F.R.C.S. Eng.

Blackheath, Feb. 20th, 1897.

"ELECTIONS OF MEDICAL OFFICERS OF HEALTH: A PROTEST."

To the Editors of THE LANCET.

SIRS,—Of the published appeals for journalistic sympathy which it has been one's lot to read, the ill-conditioned farrago over the patently inappropriate signature "Justitia," in THE LANCET of Feb. 13th at p. 482, appears, on the writer's own statement of the case, to be the most shallow, perverted, and groundless. His grievance is, forsooth, that a young man, holding both a first-rate degree and a first-rate diploma in sanitary science, and possessing the invaluable recommendation of fifteen months' practical work with the health officer of a very large sanitary combination, should be elected to one of its constituent districts which his chief has resigned in preference to your correspondent, although the latter in his letter adduces no evidence of previous practical experience, and has apparently neglected or failed to obtain from his vaunted "courses of instruction in hygiene, bacteriology, and public health chemistry" their ordinary concrete sequel—viz., a D.P.H. He complains that influence was used to secure his well-equipped rival's election, and implies that but for such influence he would himself have been appointed, presumably on what he is pleased to consider his merits. Herein I submit he stultifies himself, for if the appointment were decided solely on the candidates' respective merits, "Justitia," being without previous experience and a D.P.H., would not have had a "look-in," and therefore, in any event, could only have succeeded by that very exercise of influence of which he would now have us believe he is so righteously abhorrent. Further, in admitting that the county medical officer's influence could secure the appointment he confutes his own imputation as to the payment of that official's assistant, for if the medical officer practically *gave up* one of his districts to his assistant (as he has done), is he not to all intents and purposes paying him out of his own pocket? Then, again, his objection that "the assistant will hold it only long enough to get a larger plum," &c., is, as I know from personal experience of a very similar competition with an opposite result, one that may, despite all assertions to the contrary, apply with equal force to "Justitia" himself, and if otherwise, surely his vexation at failing to secure "such a small appointment" is somewhat unaccountable.

The "red-herring" clap-trap about expense to the ratepayers in railway fares and advertising needs no comment, and when your complainant's wrathful disappointment has subsided it is to be hoped he will vindicate his right to his *nom de plume* by recognising the council's wisdom in appointing the candidate to whose superior training and

fitness he has involuntarily testified so highly. I may add that my only knowledge of the affair is from your correspondent's letter. I am, Sirs, yours truly,

Feb. 13th, 1897. COUNTY BOROUGH M.O.H.

"MIRROR SPEECH."

To the Editors of THE LANCET.

SIRS,—In connexion with your annotation on mirror speech[1] and Dr. William Elder's paper on Agraphia, read before the Edinburgh Medico-Chirurgical Society,[2] the following suggestions in a letter by M. Gaston Legros[3] may be of interest:—"The right hemisphere contains a centre which presides over the images of letters and words as well as over the movements necessary for their formation, but in right-handed people it remains in a more or less rudimentary condition. In a patient afflicted with right hemiplegia and verbal cecity this rudimentary centre becomes the directing power, and the resulting written speech—which naturally retains the centrifugal direction—is the so-called mirror writing. Let us now consider mirror speech. Here, too, we find evidence of action on the part of the rudimentary right centre. The patient, by reason of the annihilation, or suspension, of his left centres, calls upon those in his right hemisphere; but is it not admissible to infer that the latter in their rudimentary state are not able to act independently of each other? They strive to adjust their individual insufficiency by association. The patient sees his words—having, as it were, written them down in his brain—before articulation, and consequently they are produced orally in centrifugal order. There is here analogy with Charcot's cases of verbal cecity, where the visual memory of a word was supplemented by its graphomotor image and the patients could only read when in the act of writing. The stimulus of the movements required for the formation of the words served to awaken a sense of their signification. A patient with mirror speech can only speak as the result of action in his centres on the healthy side."

The foregoing hypothesis is distinctly in favour of the existence of an independent psychic motor which acts through the material brain.

I am, Sirs, yours faithfully,

Jan. 30th, 1897. KITHOGUE.

P.S.—Professor Charles Richet informs a Parisian contemporary that Leonardo da Vinci was in the habit of writing mirror-wise. In his magnificent work on the flight of birds, recently edited in Paris by Th. Sabatchnikoff, the writing is absolutely unintelligible if looked at in the ordinary way, but at once becomes legible when the sheet is reversed and held against the light or before a mirror. Professor Richet believes he has seen it stated that the celebrated painter wrote in this fashion in order to save his discoveries from the pilfering of his rivals, but this hypothesis cannot be founded on fact because it is not likely that pilferers would be deceived by so transparent an artifice. In any case, he adds in conclusion, the fact of the mirror writing is incontestable, and proves that this mode of expressing oneself is not incompatible with genius of the very first order.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The New General Hospital.

THE date of the visit of the Princess Christian to open the new hospital on behalf of Her Majesty has been arranged for the first week in July, the exact day being left to be fixed by Her Royal Highness. Much work still remains to be done in order to render the hospital fit for the reception of patients, but it is expected that sufficient advance will be made during the next few months to justify the opening ceremony being accomplished by that time.

Mason College: Resignation of Professor Wilders.

The following resolution has been passed by the Council of Mason College:—"That Professor Wilders letter be received and entered on the minutes, and that in accepting the resignation by Professor Wilders of the chair of forensic medicine the Council desires to record its regret that on the ground of ill-health Professor Wilders feels himself obliged to sever his connexion with the college and to relinquish a chair which he has honourably and usefully occupied, first at Queen's College and later at Mason College, for a period of thirty years. The council further desires to express its sympathy with Professor Wilders in the cause which has led to his resignation and, as a mark of appreciation of his services in the past and of his position as senior member of the professional body, it requests him to accept the title of 'Emeritus Professor.' The council further desires to have the foregoing resolution suitably engrossed, and, after the signatures of the members of the council and the officers have been appended, to forward it to him." This just and graceful recognition of his services must be very gratifying to the recipient and afford him much satisfaction and pleasurable memories. Already there are five candidates for the vacant post, each with local claims more or less prominent—Mr. Jordan Lloyd, Mr. J. T. J. Morrison, Dr. R. M. Simon, Mr. Wm. Thomas, and Mr. Wright Wilson.

Food Adulteration.

As already mentioned the Health Committee of the City Council have been active in the prosecution of the vendors of adulterated food and drugs. At a recent meeting of the magistrates a local firm was fined £5 for selling sugar which was largely contaminated with foreign matter. The analysis of Dr. Hill, the borough analyst, proved that the samples submitted contained 25 per cent. of carbonate of lime. This is said to be used largely in the bleaching of sugar, but the amount represented appears to be excessive in this instance. The public, we are told, look for a bright and sparkling appearance of the sugar, but they can hardly be credited with the knowledge of how this is obtained or how it can be profitably used in the face of an expert examination. In other cases also the subject of prosecution, two drysalters, were fined £3 and costs for selling glycerine adulterated with 50 per cent. of glucose and labelling the penny bottles "pure glycerine." The defence was a lame one—that others did the same, but it did not exempt them from the infliction of the fine. It is a notorious fact that many persons trading as chemists under the style of drysalters and drug stores are not qualified to dispense drugs, and from them syrup of poppies, paregoric, laudanum, red and white precipitate, and other poisons are obtainable in quantities likely to produce very evil results in their indiscriminate use.

The Treatment of Diphtheria.

An important conference has taken place recently between the health committee and representatives of the board of guardians in order to promote a more general use of the antitoxin treatment of diphtheria. It was stated that in 1896 out of 70 cases of diphtheria which developed in the hospital and were thus treated there was no death. The diagnosis in every case was confirmed by bacteriological examination. It was also pointed out that in 1894 in Birmingham 316 cases of diphtheria were notified in the ordinary way and 50 deaths occurred. In 1895 there were 640 cases and 163 deaths, and in 1896 1100 cases and 246 deaths, giving a percentage of deaths to cases notified for the three years of 21·5 per cent. Some additional information of an interesting kind was also adduced. In relation to this epidemic the following circular has been addressed to the profession in the locality, signed by the Presidents respectively of the Medical Institute, the Midland Medical Society, and the Birmingham Branch of the British Medical Association. "At the request of the health committee of the City Council we have decided to convene a meeting of the members of the medical profession practising in Birmingham, to be held at the library of the Medical Institute on Thursday, Feb. 25th, at 4 P.M., to discuss the best means of dealing with the present epidemic of diphtheria."

Birmingham General Dispensary.

The 103rd Annual Report has just been issued. It states that the income for the year was £7,662 3*s*. 5*d*., and the expenditure £7,141 6*s*. 7*d*. The total number of patients admitted by tickets has been 35,098, an increase of 2324, and the average cost per patient was 3*s*. 8*d*. There have been 6374 teeth and accident cases admitted without tickets. The amount expended in relief has been over £600, rather more than in previous years.

Feb. 23rd.

[1] THE LANCET, Dec. 19th, 1896, p. 1773.
[2] THE LANCET, Jan. 23rd, 1897, p. 245.
[3] Le Progrès Médical, Dec. 19th, 1896, p. 473.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Female Sanitary Inspectors.

THE sanitary sub-committee of the City Council have recommended, upon the suggestion of the medical officer of health, that two lady sanitary inspectors be appointed. Dr. Hope said the main duties of the female inspectors would be to visit the houses of the lower classes who were habitually dirty, whose dwellings were habitually filthy, and who paid no attention to their own cleanliness or that of their children. The main usefulness of the female inspectors would lie in that direction. Dr. Hope did not anticipate that the female inspectors would meet with opposition in visiting houses, and thought their influence would be similar to that of district nurses—wherever they went cleanliness would follow. Lady inspectors had been a success in Glasgow, and they had been tried in Manchester, but not exactly on the same lines.

The Eye and Ear Infirmary.

The Liverpool Eye and Ear Infirmary appears to be financially in a condition calculated to excite the envy of less fortunate institutions, whose annual reports constantly show an increased debit balance. This happy result has been attained by the receipt of several handsome donations. At the same time the committee wish the charitable public to know that had the funds been in a more prosperous condition at the close of 1895, when there was a debit balance of £355, these donations, amounting to £750, would have been applied to the extinction of the mortgage debt, which still remains at £1000. The hospital possesses no invested funds, and whilst the annual expenses amount to £2200 the reliable sources of income do not exceed £1700. The Hospital Sunday and Saturday contribution amounted to £440. In the out-patient department 6153 new eye cases, and 2204 new ear cases were treated. These cases have been attended to and prescribed for 21,843 and 7538 times respectively. The number of minor operations on out-patients was 1139. The number of important operations in the in-patient department, where 765 patients occupied beds during the year, was 549. The treasurer said this was almost the only instance during his twenty-three years' treasurership when he had been able to show accounts with a credit balance, which now was £55. The term of office of the honorary surgeons to this charity, which is limited to twenty years, differs from that of all the local general hospitals where the sixty years age-limit is the rule. In Mr. Edgar Browne's case this meant retirement at a comparatively early age, when his judgment and operative skill were of especial value to the hospital. While no harm can possibly result from the adoption of the prevalent age-limit, much benefit to the charity would attach to the retention of matured services.

The Lunacy Fee Dispute in the Prescot Union.

The reply of the Commissioners in Lunacy to the communication addressed to them by the clerk of the Prescot Board of Guardians referring to the refusal of Dr. Hall and the other medical men in Prescot to accept a reduced fee of half a guinea for examining and certifying for the removal of pauper lunatics to asylums was in the terms anticipated in my last letter. The Commissioners in Lunacy stated in their reply that they were unable to give authoritative legal opinions on the construction of Acts of Parliament. They also pointed out that a medical man could lawfully refuse to give a certificate for a pauper lunatic unless he was allowed to charge his own fee. If anything serious had happened in the case of Martin Weir from his violence after the medical man had refused to sign the certificate of lunacy, they did not think the latter could have been held responsible. The Commissioners thought that Section 235 of the Lunacy Act, 1890, gave discretion to the justices in regard to fixing a reasonable fee; but if the medical man examined an alleged lunatic before fixing his fee, he could not afterwards demand more than the sum which the justice thought was a reasonable one. The clerk pointed out to the guardians that the Lunacy Act contained a section stating that if the justice would not certify for a guinea fee, the guardians would have to settle the matter with their medical officer.

"The Bacteriology of Fish and the Connexion of Fish with Disease."

This was the subject of a lecture delivered at University College by Professor Boyce. Among the practical points to which he alluded was that of the bacteria which, getting into the alimentary canal of the fish, were not injurious to the fish itself, though the means of communicating typhoid fever and other dangerous diseases to mankind. The precautions to be adopted included frequent and effective cleansing of fish boxes, the gutting and cleansing of the fish at the earliest opportunity, keeping the fish at a low temperature with ice, &c. The lecturer described a disease which sometimes attacked codfish, and which made them as red as salmon; he had some years ago read of a Liverpool costermonger having been brought up on a charge of wilfully dyeing codfish to make them look like salmon. The bacteria which caused this redness of colour had been traced to the salt with which the fish were cured. The preventatives were thorough cleanliness in the fish factories and sterilising the salt of this particular bacterium by subjecting it to artificial heat, not necessarily of a very high degree. A few lantern slides were shown in illustration of the subject, and also of other deleterious changes, such as phosphorescence, which take place in fish.

The Liverpool contributions to the Indian Famine Fund now amount to £21,673 14*s.* 5*d.*

Mr. Heywood Bright has been elected chairman of the General Committee of the Royal Infirmary in the room of Mr. Hamilton B. Gilmour, resigned.

The medical officer of health reports that the death-rate for Liverpool, although still high (25·1 per 1000), is lower than the average for the last ten years.

Feb. 23rd.

WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The University College of South Wales and Monmouthshire.

THE annual meeting of the court of governors of this College was held on Feb. 10th at Cardiff. The President, in reference to the building fund, stated that the Treasury had promised the second £10,000 in three instalments—the first of £5000 and two others of £2500 each. The first £5000 had been paid, and this had been met by a similar sum contributed locally. Last year the Treasury had contributed £10,000 to meet a similar sum contributed in South Wales and Monmouthshire, making a total, with the amount received from their generous friends in the district, of £30,000 towards the building fund. Since then he had been endeavouring to get a sum of £2500 from the subscribers in order to ask the Treasury for another instalment. The chairman reminded the court that the whole £20,000 must be obtained by the end of March. The total amount promised towards the fund was £20,500, and of that sum £16,780 had been paid, and if he could get £750 next week the sum of £2500 could be obtained from the Treasury. The need for new buildings was keenly felt owing to the increase in the number of students. The day students this year had been returned at 418, as against between 370 and 380 last year. Lord Windsor and Dr. W. T. Edwards were elected vice-presidents of the College. Lord Tredegar, Archdeacon Griffiths, Mr. J. Duncan, and Mr. J. A. Jenkins were appointed to represent the College on the Court of the University of Wales for a period of three years.

A Convalescent Home for Bristol.

At a meeting held in Bristol on Feb. 22nd, under the presidency of the Mayor, it was determined that the permanent memorial for the Queen's Diamond Jubilee should take the form of a convalescent home, and that an effort should be made to raise £50,000, one half of this sum being reserved for endowment. A sum of nearly £8500 has been already promised, besides a building which might be converted, at a comparatively small outlay, to the purposes of a home. When the formal appeal for funds is made the residents of Bristol and the neighbourhood will doubtless respond in a generous manner.

The Bristol and Clifton Society for the Prevention of Cruelty to Animals.

The annual report for 1896 shows that during the year 322 cases were brought under the notice of the society's officers; 92 prosecutions were instituted; 91 convictions were obtained; 67 animals were destroyed, either after proceedings and as the alternative to a heavy fine or through the intervention of the

society's officers without prosecution; 37 cases were investigated when either the evidence was insufficient or the complaint groundless; and 123 cases were deemed to be sufficiently dealt with by a caution only. The committee of the society regret that but little progress appears to have been made in giving effect to the resolution of the sanitary authority in favour of the establishment of public slaughter-houses, as recommended in the report of the medical officer of health for Bristol (Dr. D. S. Davies).

Cardiff and the Queen's Commemoration.

The Cardiff Chamber of Commerce on Feb. 17th discussed the question of celebrating the Queen's long reign, and a resolution was adopted in favour of erecting a permanent hospital for sailors in lieu of the *Hamadryad* hospital ship. The mayor will shortly call a public meeting in favour of the scheme. The *Hamadryad* has been in use about twenty-five years, and last year 379 in-patients and 11,060 out-patients were treated. The old ship is now getting worn out and will shortly have to be replaced. It is used, not only by seamen, but by townsmen who are injured in the vicinity of the docks. There is every prospect that the project will be carried out.

The Barnstaple Board of Guardians and Vaccination.

Some time ago the magistrates of the county bench at Barnstaple, by the advice of their clerk, held that a vaccination officer must produce written personal authority by resolution of his board for prosecution. The clerk to the guardians did not share this opinion, but believed that these officers were bound by law to prosecute on their own initiative. At the last vaccination prosecution this gentleman informed the magistrates that although he had the authority of the board he did not intend to use that reason, but relied on a recent decision of Mr. Justice Wright and Mr. Justice Bruce. The clerk to the magistrates then adopted this view and the prosecution proceeded without the authority being called for. The clerk to the guardians reported the fact to the meeting held on Feb. 19th, and from the debate which followed it appears that for the future it will be illegal to move that no prosecution shall be taken against vaccination defaulters and the vaccination officers will themselves prosecute whenever necessary without troubling the board. The clerk of the guardians is to be complimented upon his action and it is to be hoped that other boards will follow the example of Barnstaple.

Water-supply of Rhayader.

An inquiry was held on Feb. 10th by one of the inspectors of the Local Government Board in reference to an application made by the Rhayader rural district council to borrow £2120 for works of water-supply for the parish. It is proposed to lay new mains to replace the old ones, which have become corroded, and to supplement the existing supply by means of pumping from the River Wye in dry seasons. The objectors to this scheme opposed the pumping from the river and advocated a gravitation scheme from Nantsarn, which had been commenced but abandoned because an analysis of the water was not satisfactory. A petition in favour of this was presented, which showed that many thousands of sheep were washed in the River Wye and that the sewage from 118 houses entered the river above the intake. The inspector announced that he would have independent analyses of the water made.

Death of the Son of Dr. John Beddoe of Bradford-on-Avon.

Much sympathy is felt with Dr. and Mrs. Beddoe of Bradford-on-Avon, whose son, Mr. C. Beddoe, has met with a fatal accident while with Captain Lugard's exploration party in Central Africa.

Proposed New Hospitals.

Lord Wimborne has offered to make a free gift to Poole of the house and ground known as Poole Mansions to be used as a hospital for Poole and neighbourhood. Lord Wimborne suggests that an endowment fund for the hospital should be the form which the memorial of Her Majesty's Diamond Jubilee should assume, and offers to head the list with a donation of £1000. Lord Wimborne's gift represents about £4000.—At the meeting of the Barry Urban District Council, held on Feb. 5th, the chairman suggested that the Queen's Diamond Jubilee should be celebrated by the erection of a general hospital for the town, and an influential and representative committee of councillors and other gentlemen was appointed to take the question into consideration and to report.

Feb. 23rd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Chair of Medical Jurisprudence and Public Health in Edinburgh.

IT has been intimated here that the profession was interested in the future of this chair, from which Sir Douglas Maclagan has retired; and the profession generally will be pleased that the University Court has declared its approval of the chair being divided. It is understood that this decision has been made practicable by some thousands of pounds left for the purpose by the late Mr. A. L. Bruce and the promise of several thousands towards the same object by an anonymous donor. The new arrangement requires a special ordinance by the Universities' Commission, and that takes several months to obtain. Meanwhile the duties of the combined chair are being performed by Sir Douglas Maclagan's University assistant.

The Edinburgh Medico-Chirurgical Society.

This society held another of its afternoon meetings last week. It, like the former one, was devoted to an exhibition of patients and specimens. As is usual on such occasions, there were a goodly audience and a very interesting exhibition of patients. The cases were mainly surgical, and while in the majority of them nothing but a scar was demonstrable their histories were records of great surgical successes. Necessarily the surgeons have the best of a show of this kind, and after them come the dermatologists. A number of the specimens were related to the cases shown, and thus greater interest attached to them.

Lecture at the Royal College of Surgeons of Edinburgh on "The Parasites in Cancer."

On Friday of last week Mr. Harold J. Stiles delivered one of the newly instituted lectures at the Royal College of Surgeons of Edinburgh. His subject was "The Parasites of Cancer," and the lecture was admirably delivered and illustrated. While it was mainly destructive in its criticism, and not necessarily convincing, it was a contribution of value to the knotty question with which it dealt.[1]

Annual Meeting of the Church of Scotland Deaconess Hospital.

The second annual meeting of this hospital was held on Monday. It was stated that a number of deaconesses and missionaries has been trained in the hospital since it was opened two years ago. The average daily number of patients was twenty and the expenditure per bed had only been £36 9s. The hospital is in the happy position of having an income larger than its expenditure.

Royal Hospital for Sick Children, Edinburgh.

The annual meeting of this hospital was held on Monday last. The report showed that 1101 patients were treated during the past year in the wards, while in the out-patient department 7455 medical and 5885 surgical cases were treated. The expenditure for the year exceeded the income by £1043. The number of both the in-patients and the out-patients had considerably increased. The ordinary income had increased, but not in proportion to the increase in the expenditure.

The Indian Famine Fund and Edinburgh Students.

Last week two successful entertainments were given in the Students' Union under the auspices of the Edinburgh Indian Association with the laudable object of raising money for the Indian Famine Fund.

Glasgow Royal Infirmary.

It is understood that a proposal to be endorsed by the Lord Provost and intended as a local memorial of the "Diamond Jubilee" is shortly to be placed before the citizens to the effect that a sum of money be raised for the purpose of effecting considerable alterations in the buildings of the Royal Infirmary. This object is sure to command wide sympathy, and yet it may be fairly questioned whether the proposal is wisely inspired. The Royal Infirmary has now been standing for over a hundred years, and though various alterations have been made at different times the building is for the most part sadly defective in the light of modern hospital requirements. Further, it may be questioned whether any alterations that are within the reach of possibility can ever

[1] A brief abstract of this lecture will be found on page 618.—ED. L.

really fit it to meet these requirements. A large sum of money may be spent, and yet in the end, both for treating patients and teaching students, the accommodation and equipment remain most unsatisfactory. The new wine, in short, cannot be contained in the old bottle. But the attention of the directors may be drawn to a more heroic proposal—viz., the re-building of the hospital on a new site. This would secure an entirely new building in harmony with modern demands and also surroundings more suitable to a general hospital than those in the neighbourhood of the present building. Such a site could certainly be found without going too near the limits of the city boundaries, and by a determined effort the money could surely be raised. The infirmary is by far the oldest in Glasgow, it has a long list of distinguished traditions, and its appeal is to the entire community. The occasion which was offered once before has again presented itself. To miss it will almost certainly perpetuate the present unsatisfactory condition for many years, whilst a mere patching up of the old building is not only a much less stimulating proposal, but is a scheme the wisdom of which is fairly open to question.

Medical Appoi ntments.

Mr. George A. Turner, M.D. Glasg., and Mr. J. M. Munro Kerr, M.B. Glasg., have been appointed physicians to the dispensary of the Western Infirmary in the department for Diseases of Women. Mr. W. Burns Macdonald, M.B. Edin., has been elected Medical Officer of Health for the burgh of Dunbar.

Royal Hospital for Sick Children, Aberdeen.

The average length of stay of patients treated in the wards during 1896 was 39¾ days; annual expenditure per bed occupied, £36 10*s.* 3*d.*; deficit for year (after absorbing legacies), £247 15*s.* 9*d.* The additions now being built will cost £3000, of which £1700 have been already subscribed.

Feb. 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

A Case of Leprosy in Dublin.

THE state of the public health of Dublin is still a topic of engrossing interest and of great anxiety to the medical profession as well as to the citizens. The fact that a case of leprosy has been diagnosed by competent authorities in the person of a young man living at the north side of the city is not calculated to allay the feeling. The superintendent officer of public health has been communicated with and arrangements are being made to ensure the deportation of the unfortunate patient.

The Preliminary Examination at the Royal College of Surgeons in Ireland.

It has been stated publicly that the Education Committee of the General Medical Council is now moving for the abolishment of the preliminary literary examinations of the Royal Colleges of Physicians and Surgeons in Ireland. All such examinations have already been given over in England, where certificates of general education must now be produced by aspirants to registration as medical students from competent literary examining bodies. This seems to be a move in the right direction, for it is notorious that many of the examiners in medicine and surgery of the licensing colleges in Ireland have frequently complained of the deficient general education of candidates, and felt themselves obliged to furnish separate reports referring to that deficit as distinguished from want of knowledge of purely medical and surgical subjects.

The Microbe of Bubonic Plague.

The germ associated with the epidemic of bubonic plague in India was exhibited by Professor McWeeney at a meeting of the Scientific and Literary Society of the Catholic University on Monday, Feb. 22nd. It resembles a diplococcus, and is found in large quantities in the blood of infected patients.

The Ulster Hospital for Women and Children.

At the annual meeting held on Feb. 19th it was announced that during the past year there had been 161 children and 80 women admitted into the wards, and 9081 children and 1425 women seen in the out-patient department. The maternity nurse had attended 161 cases. About 4*s.* per head covered all expenses. The establishment of an isolation ward had been of the greatest service, and by its use the medical staff had been able to safeguard the wards from any serious outbreak of infection. Financially there is a sum of £154 to the credit of the institution.

Sir William MacCormac.

A proposal has just been made that the medical profession of Belfast and the vicinity should entertain Sir W. MacCormac, President of the Royal College of Surgeons of England, at a dinner on the occasion of the unveiling of his portrait on March 15th next by the Marquis of Dufferin and Ava at Queen's College, Belfast. Sir W. MacCormac, who is an old student of the College, was, prior to his going to London, surgeon to the Royal Hospital, Belfast.

Belfast Royal Hospital.

At the quarterly meeting of the supporters of this hospital, held on Feb. 22nd, it was reported that during the past quarter 528 intern patients had been treated, while during the same period there had been 5401 new extern cases. The financial condition of the hospital is not satisfactory; the present financial year commenced with a balance against the hospital of £1068 1*s.* 2*d.*, while the expenditure for the five months ending Jan. 31st has been £4340 3*s.* 7*d.*, making a total of £5408 4*s.* 9*d.* The income for the same period has been £3013 1*s.* 5*d.*, leaving a balance against the hospital of £2394 11*s.* 4*d.* The only source of income that has shown any elasticity is that from the working classes, which is £69 7*s.* 2*d.* more than at the same period of last year.

Cork District Lunatic Asylum.

The importance of early treatment in cases of insanity is well shown in one of the statistical tables appended to the report of the medical superintendent of the Cork District Lunatic Asylum for the year 1896. It was found that 40 per cent. recovered among those who had been less than three months ill, but only 13 per cent. were discharged cured of those who had been ill for more than three months before admission, while of those ill twelve months only 8 per cent. recovered. Patients who have once been in an asylum frequently relapse from a slight cause, on the removal of which recovery again takes place; 26 per cent. of those recovered were relapsed cases.

Feb. 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Private Hospitals.

M. MICHELIN, a deputy, has laid before the Chamber a Bill for the Regulation of Private Hospitals. A scandal has recently electrified Paris, where two months ago two medical men were accused of having procured abortion in a private hospital. They are at present in prison awaiting their trial. The Bill of M. Michelin provides that no private hospital should be allowed to be open without the express sanction of the Prefect of Police, under pain of a fine of from 50 to 500 francs and a term of imprisonment varying from eight days to six months, and that such hospitals, being always under police surveillance, shall be closed upon the first complaint. Every medical man convicted of having performed, or having caused to be performed, a useless operation will be prosecuted as a swindler. The forms of swindling instanced are where the patient's consent is obtained either by an untrue promise of permanent cure or by prognostication of serious complications by which representations an unnecessary operation would be forced upon the patient or money extorted from him. The profession in Paris is naturally irate at these proposals, which lead the public to believe that every private hospital is a dangerous place and that all their surgeons should be under police surveillance. It is quite possible that the medical man accused of having found a fœtus in the patient on whom hysterectomy was performed acted in all good faith. M. Brouardel, Dean of the Faculty of Medicine, drew up a very severe report upon the evidence of the post-mortem and it was mainly this report which led to the arrest and trial. The two medical men who are accused were arrested a long time ago and they are still awaiting trial. The case should have come on at the end of this month but has been adjourned because M. Brouardel has gone to Venice as a delegate to the Sanitary Conference.

France and the Plague.

Excitement about the plague seems to be evaporating. Some articles have recently appeared in the daily press saying that quarantine regulations are illusory because they are not applied universally, and that complete disinfection of the whole of a ship's cargo is impossible. One prominent effect of the regulations is to increase the trade of those ports where they are not in force. Ships which are refused the right of entry to the port of Marseilles discharge their cargo at Genoa, where there are no quarantine regulations, and the merchandise arrives in France by the railway. It has been found that the certificates of certain "ships' doctors" are very often incorrect. These "doctors" are chosen by the shipping companies without any official control and are frequently unqualified men whose only means of livelihood is the holding of a post of this kind. Therefore they often conceal the fact that there are sick on board, the notification of whose illness would delay the unloading of the ship and bring the company into public disfavour. A new law proposes to oblige the companies to carry no one as surgeon who is not properly qualified and has not also passed a special examination in hygiene, epidemiology and bacteriology. The medical men at present holding these appointments have asked leave to continue to hold them without passing this examination which they say is difficult and for which they have no time for study as they are always on the sea. It is true that the greater part of these "doctors," not really belonging to the profession, would starve if they were dismissed without a pension, but on the other hand incomplete or inaccurate certificates are a source of great danger in a time of epidemic.

The Health of the French Navy.

At the Academy of Medicine MM. Vincent and Burot presented some statistics of mortality in the navy. For the five years 1891–95 out of 198,313 men there were 2253 deaths, or 11 per 1000. Tuberculosis was responsible for a quarter of this mortality, and was found to be more frequent in the navy than in the army. Malaria, dysentery, and cholera also showed a heavy death-rate, and so did accidental deaths and drowning. The mortality among the medical officers and dispensers was 19 per 1000.

Regulations for Match Manufactories.

At the same meeting M. Valin read a report which he had prepared to send to the Finance Minister, who had requested the Academy to report upon the question of rendering the manufacture of matches less dangerous to health. The report advised the general adoption of *phosphore blanc*, thorough ventilation of the shops, a careful selection of workers so as to keep out those with any predisposition to bone lesions, and the employment of machinery enclosed in glass cases, so that the worker would be protected from the fumes.

Narrow Escape of a French Alienist.

Whilst engaged seeing fresh patients recently Dr. Charpentier, physician to the Bicêtre Asylum, Paris, had a wonderfully narrow escape from assassination. Soon after he had taken his seat a man, whose appearance afforded no indications of excitement, advanced to the table and said, "Good morning doctor, do you remember me?" "Yes," replied Dr. Charpentier, you are Recq, a former ——." The other, however, did not wait for the conclusion of the sentence. Raising his right hand, which hitherto he had kept concealed in his coat pocket, he aimed a revolver point blank at Dr. Charpentier, so that the muzzle almost touched his breast and fired. Happily the bullet impinged on the victim's sternum, which it failed to penetrate; while with admirable presence of mind M. Siegel, who was standing by, threw himself upon the would-be murderer and prevented him from discharging the other barrels of his weapon. The missile caused a contused wound with slight hæmorrhage, and became flattened against the bone; but Dr. Charpentier was able to continue his service and has not felt any bad effects. It seems that Recq was formerly an inmate at Bicêtre under Dr. Charpentier, and that he has also been confined in other asylums. When he was interrogated as to the motives that induced him to commit such a crime he replied with great coolness that he had been unjustly imprisoned and consequently wished to kill someone in order that attention being thereby drawn to his case he might obtain justice. The certificate, drawn up by Dr. Charpentier, on the strength of which Recq left Bicêtre in 1890, was couched in the following terms:—"A lunatic, persecuted, troublesome, who under the influence of prolonged sequestration has become calm, industrious, submissive; he has abandoned his frenzied ideas and seems to be actuated by good intentions. We are of opinion that he may be set at liberty, but we cannot affirm that he is free from risk of relapse, or that he may not again become dangerous."

Feb. 23rd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Private Hospitals.

IN large towns like Berlin there are many private hospitals where patients are received for the purpose of having operations performed by surgeons and gynæcologists and other specialists. The necessity for these institutions arises in part from the circumstance that in Germany the opportunities of obtaining appointments in connexion with public hospitals are comparatively few—considerably fewer than in either England or France, and if it were not for the private hospitals many rising young surgeons would have but little scope for the exercise of their talents. Many patients also require special nursing, which they cannot get at home, but for various causes are not eligible as inmates of the public hospitals; they accordingly enter the private hospitals; and it not infrequently happens that surgeons attached to the public hospitals attend such patients and perform operations in the private hospitals. It appears, however, that private hospitals are not looked on with much favour in official circles, and those who are responsible for their management are now placed in a position of some difficulty by the issue of stringent regulations on the subject of their internal arrangements. The requirements of these new regulations are, in fact, so onerous that the entire abolition of the private hospitals seems to be the real object in view. For instance, the windows of patients' wards must not look towards the north, fresh air must be warmed before it is admitted into the rooms, the staircases must have a width of 1·30 metre (4 ft. 4 in.), and the passages a width of 1·80 metre (6 ft.), there must be a sitting-room on each floor, and there must be a garden for the use of the patients. Hardly any of the hospitals and institutions for convalescents at present existing fulfil these requirements, and it would seem that medical men will no longer be able to open establishments of this kind unless they are prepared to have buildings specially erected for the purpose. The new regulations were discussed recently at a meeting of the Public Health Society, and the majority of the speakers were of opinion that such sweeping measures were not in the interest either of the medical profession or the public. If the regulations are enforced the cost of carrying on a private hospital will be greatly increased and the proprietors will naturally protect themselves by raising the fees. Another token of systematic hostility to these hospitals is the fact that they are now officially classified by the Tax Office as industrial establishments, and the proprietors have been requested to pay the so-called industrial tax in like manner with shopkeepers and others engaged in money-making businesses. The medical men connected with the private hospitals naturally consider that they have just grounds of complaint and they have held a meeting in Langenbeck House to protest against the action of the authorities. Professor Bergmann, who was in the chair, pointed out that it is quite unwarrantable to assume, as has been done, that private hospitals are carried on as sources of profit; it is, in fact, sufficiently well known that many medical men not only do not earn anything from their hospitals, but have even to contribute to the expenses. It was also stated that much scientific work is done in the private hospitals, and on various grounds the action of the authorities was strongly condemned. It was eventually decided that the proprietors of private hospitals should form themselves into a union and that they should refuse to pay the industrial tax; arrangements were also made for engaging legal assistance and for bringing the cases before the law courts.

The Antitoxin Treatment of Tetanus.

Dr. Jacob of Petersdorf in Silesia reports in the *Deutsche Medicinische Wochenschrift* a case of tetanus successfully treated by Behring's antitoxin. A boy, aged fourteen years, was shot through the right shoulder on Oct. 13th. Two paper wads, together with stones, pieces of cloth, &c., were

removed from the wound, and a week afterwards it was covered by healthy granulations. On Nov. 13th the patient tried to move his arm for the first time, but was unable to do so on account of the rigidity of the muscles. On Nov. 16th Dr. Jacob was sent for in haste and found the patient in a typical state of tetanus. His face was contracted, trismus and opisthotonos had developed, there were tonic convulsions of the muscles of the abdomen, the chest, and the extremities; respiration and deglutition were difficult; there was retention of urine, the bowels were constipated, and violent convulsions occurred when the patient tried to open his mouth. The temperature was 37·6° C. (= 99·6° F.), and the pulse was 160. The urine, which was drawn off with a catheter, was free from albumin and sugar. Morphia and chloral were administered, but without any good result. On the following evening five grammes of Behring's antitoxin dissolved in fifty grammes of water were injected at five places on the right side of the chest and abdomen and one gramme (= 15½ grains) of chloral was given. The patient slept for four hours, but in a day or two the paroxysms were as severe as at first. He could, however, open his mouth better and move his right leg. On the evening an exanthem like scarlet fever appeared on the face, the chest, and the arms. Next day urine and fæces could be passed freely and the right arm and the legs could be moved. On Nov. 20th several convulsions of the extremities were observed, but they were not so strong as before. A second injection of five grammes was given on Nov. 22nd, and since that time the patient's state obviously became better. On Nov. 24th he was able to move his head of his own accord and to open his mouth. On Nov. 25th he could laugh, whistle, and move the vertebral column, in addition to which the convulsions, though still present, were of less duration. By Dec. 11th, when the patient first left his bed, the general attacks had entirely disappeared, but short convulsions of the muscles of the face and the left arm continued till the end of December. Dr. Jacob states that the time of incubation was about twelve days, and that the illness did not begin as usual with trismus, but with a contraction of the muscles near the wound. The beneficial action of the antitoxin was well marked, although it was not possible to give the first injection sooner than the fifth day after the onset of the symptoms, when they had already become severe. The effect of the injection was not immediate, but developed itself slowly, a fact in accordance with the observations of Tizzoni and Cattani.

An Epidemic of Trachoma.

Eastern and Western Prussia, Posen, and Silesia have recently been visited by an epidemic of trachoma, and the cases are very numerous, especially in some districts near the Russian frontier, where the general standard of living is low. The reports of the medical officers of health show that in the district of Johannisburg there are 2343 patients, and in the district of Lyek 3913, of whom 994 are in the town of Lyek, the remainder being in the country. As the town contains only 10,000 inhabitants the number of patients amount to 10 per cent of the total population. In Sensburg there are 913 and in Pillkallen 1322 patients. In the latter district the prevalence among school children is especially remarkable, no fewer than 571 of them having contracted the disease. The Medical Department of the Government organised a conference at Berlin, which was attended by the members of the Department, by delegates from the local authorities concerned, and by the district medical officers of health. It was decided to set apart special wards for trachoma in the ophthalmic hospital of Königsberg University and in the municipal hospitals of Danzig and Königsberg. Lectures on trachoma with practical demonstrations will also be delivered at the above hospitals at the expense of the Government, no fees being charged either to the medical officers of health or to any medical men who may care to attend. Experts are to be appointed by the Government to travel through the infected districts and to attend the poor in conjunction with the local medical men. Trachoma formed the subject of a paper read before the Berlin Medical Society by Dr. Kirchner of Königsberg, one of the medical men who had come to the conference. He said that the above-named eastern districts may easily become the focus of an epidemic owing to the carelessness of the population in hygienic matters. He was of opinion that children should be taught in school the dangers of this disease, and recommended the establishment of public dispensaries in the district towns, together with other measures which may enable poor persons to obtain medical advice and treatment. The district affected by this epidemic is the one where leprosy has recently become prevalent.[1]

The Medical Congresses.

The programmes of this year's medical congresses are now issued. The twenty-sixth Congress of the German Surgical Association will be held at its headquarters, Langenbeck House, in Berlin, from April 21st to 24th, under the presidency of Professor von Bruns of Tübingen. The principal papers to be read are: (1) the Surgical Treatment of Gastric Ulcer, by Professor von Leube of Hamburg and Professor Mikulicz of Breslau; (2) the Value of the x Rays in Surgical Practice, by Dr. Kümmel of Hamburg; and (3) Operations for Prostatic Enlargement, by Professor Helferich of Greifswald. An exhibition of surgical apparatus, dressing materials, &c., will be arranged as usual in connexion with the meeting. The Congress of Internal Medicine will meet this year in Berlin from June 9th to 12th, under the presidency of Professor Leyden. Among the subjects of discussion are: (1) the Treatment of Rheumatic Arthritis, by Professor Baümler of Freiburg and Dr. Ott of Marienbad; (2) Epilepsy, by Dr. Unverrich of Magdeburg; (3) Graves's Disease, by Professor Eulenburg of Berlin; (4) the Aims of Modern Treatment by Means of Drugs, by Professor Liebreich of Berlin; (5) the Prognosis of Spinal Diseases, by Professor Leyden; and (6) the Pathology of Diarrhœa in Children, by Professor Baginsky of Berlin.—The Balneological Association will meet at Berlin from March 11th to 15th.—The German Association of Public Health will meet in Karlsruhe from Sept. 14th to 17th; the subjects to be discussed are: (1) the Disinfection of Dwellings from a Scientific and Practical Point of View; (2) the Diminution of Intemperance; (3) Measures to be taken against Food Adulteration; (4) on School Building; and (5) the Prevention of Epidemics in Health Resorts.

Despatch of a Plague Commission to India.

The German Commission for the study of the plague will leave Germany for India next week. The members are Professor Koch, Professor Pfeiffer of the Institution for Infectious Diseases, Professor Gaffky of Giessen, Dr. Disuderic and Dr. Sticker of the Imperial Health Office. Professor Koch will travel direct to Bombay on the completion of his investigations in South Africa, and till his arrival the leader of the commission will be Professor Gaffky, who was with Professor Koch in British India during the great cholera epidemic of 1884, and assisted him in the researches which finally lead to the discovery of the comma bacillus.

Feb. 22nd.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The Italian Army Medical Reports.

FOR the last few years the army medical reports have registered a steady improvement in the health and the general sanitary condition of the Italian troops; but according to the report for 1895, which has just appeared, the results recorded in that year were less favourable than ordinarily. In 1894 the average mortality was 5·2 per 1000, the sickness was 723 per 1000, and the average number of patients in hospital was 30 per 1000; but for 1895 the corresponding numbers were respectively 7·0 per 1000, 743 per 1000, and 33 per 1000, the total on the sick-list being 157,890, of whom 1100 died. The least favourable returns came from the provincial corps and the most favourable from the carabineers. The unhealthiest months of the year, so far as the troops were concerned, were the first four, whereas September, October, and November showed the lightest sick-list. The highest death-rate occurred in the military division of Turin, and the lowest in those of Perugia, Salerno, Naples, Florence, Leghorn, and Rome. Measles and scarlet fever were most prevalent immediately after the arrival of the conscripts in quarters; typhoid fever predominated at the close of summer and the beginning of autumn; and malarial manifestations were most common in July, August, September, and October. The death-rate due to accidents, and also to suicide, reached its maximum in the carabineers, but there was no case under either heading among the bersaglieri, the Alpine regiments,

[1] THE LANCET, Dec. 5th, 1896, p. 1632.

r the engineers. The mean force of the troops under arms n 1895 was 202,913. The manner in which the report is drawn up is highly creditable to its author, Surgeon-Major Goria; unfortunately it does not give any account of the health of the troops in Africa.

Latest Views on Malaria.

Italy has hitherto maintained a foremost place in the study of malaria, mainly on the etiological or pathogenic side, and a notable contribution to our knowledge of its prophylaxis has just appeared from the pen of the sanitary engineer, Signor Filadelfo Fichera, whose work, "Pel Risanamento delle Campagne Italiane rispetto alla Malaria," has been brought out by the well-known publishers, Hoepli of Milan. It consists of two large volumes, profusely illustrated, in the first of which, after a survey of the latest laboratory research, the author proceeds to discuss the means open to sanitary engineering for combating the fever, first in its diffusion and ultimately in its genesis. An exhaustive bibliography is appended.

Statistics of Sero-therapy in Diphtheria.

The "Società Piemontese d'Igiene," at a recent meeting under the presidency of Professor Bizzozero, discussed the mortality from diphtheria under the new as compared with the old treatment. From statistics carefully compiled by Dr. Abba it appears that 55 per cent. was the proportion of fatal cases up to 1894, whereas in 1895, when sero-therapy was practised for the first time, it fell to 34 per cent. and in 1896 to 31 per cent. Another point made clear by the discussion was the superior safety of rectal injections as contrasted with those practised hypodermically—the former, moreover, being quite as certain as the latter. To save time, always of primary importance, Dr. Abba would apply sero-therapy at once without waiting for bacteriological diagnosis, and longed for the day when families would allow the medical man far greater power of initiative than he now possesses. There was some objection to the postponement of bacteriological examination of pseudo-membrane, as recommended by Dr. Abba; but this was overruled by the President, who threw the weight of his authority on the side of immediate action.

The Health of the Pope.

It is nineteen years almost to a day since Leo XIII. ascended the pontifical throne, and on the 2nd prox. he will have completed his eighty-seventh year. In view of the celebrations prescribed by either anniversary Dr. Lapponi has been peculiarly vigilant in saving His Holiness all needless exertion. The fatiguing functions connected with the coming canonisations, moreover, are another "rock ahead," and Dr. Lapponi seeks to obviate their strain by reducing meanwhile the number of audiences and shortening their duration. His Holiness is at present in very good health; indeed, till the other day Dr. Lapponi's visits had been suspended for weeks at a time. The authors of recent announcements as to "fainting fits" and "intestinal catarrhs" are not well-inspired in the occasions they select for their "industry," as His Holiness invariably stands the winter well, and it is only when the great heat sets in that anything approaching the "deliquii" in question are to be dreaded.

Revision of the "Farmacopea."

The Italian Pharmacopœia is revised every five years, and another revision is imminent. The committee appointed for this work consists of Dr. Emanuele Paternò, Professor of Applied Chemistry in our University (who acts as president); Dr. Luigi Balbiano, lecturer on Pharmaceutical Chemistry and Toxicology in the "Scuola di Farmacia" and Dr. Vincenzo Cervello, Professor of Materia Medica in the University of Palermo. The committee has held its first sitting and important innovations in the text of the Pharmacopœia are expected.

Feb. 23rd.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Scarlet Fever in Budapest.

AN elaborate paper on Scarlet Fever in Budapest since 1882 has just been read before the Budapest Medical Association by Dr. E. Jurkiny. No data of any accuracy were available for the period before 1882 as notification of infectious diseases was not made obligatory until that year. From 1882 to 1896 no fewer than 19,952 persons suffered from scarlet fever in Budapest, the average death-rate being 13·5 per cent. The number of cases was generally lowest in winter and highest in autumn, the latter being the season in which the public schools are re-opened. Dr. Jurkiny found that there was not one single week during the last fifteen years without an occurrence of scarlet fever, and he was in consequence led to the conclusion that the disease must be considered to be endemic in Budapest. At intervals its prevalence assumes the proportion of an epidemic, and there have been three such epidemics since 1882. The first began in May 1886 and lasted eight months; the second began in August, 1890, and lasted till October, 1892, that is to say for a period of twenty-six months; the third lasted from October, 1895, till December of the same year, that is three months. A disinfecting institute opened in September, 1892, succeeded in quickly putting an end to the second prolonged epidemic and was no doubt the means of reducing the third epidemic to a duration of merely three months. Dr. Jurkiny pointed out several causes which combined to neutralise all efforts to stamp out the disease. I will quote only two. First, it happens often enough that poor persons do not call in a medical man, partly because they are unwilling to incur expense, but chiefly because they object to their children being compulsorily removed to a hospital and fear that their furniture will be damaged by disinfection. The present system under which even the poorer classes of the population are made to pay the heavy hospital expenses for their children does not appear to be a good one, especially in view of the fact that the patients are removed to hospital not so much for their own sake as for the benefit of the community at large. Another factor very influential in promoting the disease is the really miserable state of the dwellings of the poor. The town council may spend large sums in providing a better water-supply and better drainage, and in carrying out other sanitary reforms, but it will not put an end to the endemic of scarlet fever until it radically improves the housing of the poorer classes.

Intubation preceding Tracheotomy.

Professor J. Bókay recommends intubation as a preparatory operation in difficult cases of tracheotomy, having very often found that tracheotomy was exempt from accidents of any sort when free respiration was provided for by means of intubation. His first operation of this kind was performed quite independently of others as early as the year 1891, and he has since then repeated it some sixty times.

Feb. 19th.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

Corporal Punishment.

RESORT to the rod, if one might believe some sensational writers, is as common in Russia as imprisonment in other countries. That it was so at one time—or rather, that resort to the rod used to be more frequent in Russia than elsewhere—may possibly be true. With the unlimited power formerly possessed by the landowner over the serf, it is not very surprising that this was so. But since the great Act of Emancipation in 1861 not only has corporal punishment come to be much more rarely inflicted than in the old days, but public opinion, or, more exactly, the opinion of the *intelligentzia* or educated classes, has undergone a considerable change in the way it regards this question. There has been a growing feeling that the use of the rod has a degrading and demoralising effect on the individual submitted to it, apart from the serious and unjustifiable physical injuries it sometimes produces. The power of inflicting corporal punishment is now no longer in the hands of the serf-owner, but in those of the *zemstvos*, and several *zemstvos* have in recent years decided to abolish entirely this mode of punishing crime in their district and have even approached the Government urging its universal abolition throughout the country. At the last conference of Russian practitioners in memory of Pirogof the question was the subject of brief discussion, though no formal conclusion was arrived at. It was, however, decided to form a committee to collect information bearing on the subject, and this committee has now

addressed a circular to the profession asking for information on the following points:—1. What facts are there indicating that corporal punishment may lead to severe psychical, nervous, or other "somatic" derangements of the health of those submitted to it? 2. Are there instances of persons already in ill health—e.g., with phthisis, heart disease, &c.—having been subjected to corporal punishment? 3. Points bearing on the medico-legal aspect of the question. 4. The literature of the subject. It was requested that all information on these points should be sent to Dr. Jbanof, Smolensk, or to Dr. Yakovenko in the Government of Moscow.

The Jubilee of Anæsthesia.

The first operation under ether in St. Petersburg was performed just fifty years ago by the great surgeon Pirogof. It was a removal of the breast in a woman and the whole procedure was done most successfully and rapidly in no more than a minute and a half. The patient was quite unconscious and felt no pain. On the same day—Feb. 14th (26th), 1847—and in the same hospital—the large military hospital on the quays of the Neva—Pirogof operated with equal success on another patient, and two days later he performed two more operations under the newly-introduced anæsthetic in the Obukhovski Hospital. It is stated that a week before Pirogof's first operation ether had been employed in a similar case in one of the Moscow hospitals, but the patient is said to have felt pain, although she had inhaled ether for twenty minutes. On Feb. 23rd (March 7th) a woman underwent amputation of the thigh without feeling any pain whatever, but the administration of ether had lasted as long as forty-five minutes in her case. It seems probable that imperfections both in the purity of the ether and in the form of the inhaler contributed to the delay in producing complete anæsthesia.

Lectures on Plague.

In view of the outbreak of plague in India the Imperial Army Medical Academy in St. Petersburg has arranged for two extra courses of lectures—one on the History of Plague, by Dr. Skoritchenko, Professor of the History and Encyclopædia of Medicine; and a second on the Clinical Aspect and Bacteriology of the disease, by Dr. S. Botkin, Professor of Infectious Diseases and Bacteriology.

Anti-diphtheritic Serum as a Prophylactic.

A certain educational institution recently requested an opinion from the Academy on the desirability or otherwise of inoculating every pupil in the institution with anti-diphtheritic serum as a prophylactic measure, diphtheria having already made its appearance among the pupils. The matter was submitted to the *Conferentzia* of the Academy (or committee of professors), and their reply was recently published. It is to the effect that such prophylactic injections would, in their opinion, be useless. This *ex-cathedrâ* statement seems worthy of record.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Syrian Protestant College.

THIS college was opened in 1866 at Beirut in Syria, and during the last quarter of a century the medical department has sent out many graduates who are employed in civil and military careers in Egypt. The college is under trustees in New York, and depends locally upon a committee of twenty-four American and British residents in Syria and Egypt, nearly all of whom are reverend missionaries. English is now the language of all three departments of the college, preparatory, collegiate, and medical, but all Arabic-speaking students are given, besides, a thorough course of instruction in their own language. Chemical, zoological, and bacteriological laboratories are now provided for the students, besides an astronomical observatory, museums of all sorts, and a library containing 8000 volumes, mostly English. The medical faculty consists of seven professors, who divide the professional subjects between them. Medical students are not admitted till the age of seventeen, and are then put through a course of four years. The following text-books among others are used:—Attfield's Chemistry, Gray's Anatomy, Bruce's Materia Medica, Parkes's Hygiene, Kirkes's Physiology, Roberts's Medicine, Druitt's Surgery, and Hart and Barbour's Gynæcology. The average number of medical students is between fifty and sixty, and there are in addition fifteen pharmaceutical students. When successful in their final examinations at the college they have to go to Constantinople to be examined for their degrees before the Imperial Medical School. Ward work is provided in the Johanniter Hospital near the college, where there are sixty-three beds and an out-patient department of 14,000 cases in the year.

Quarantine Board at Alexandria.

The presidency of this most important department has just become vacant owing to the ill-health of Mr. Miéville, who has held the post since 1884. Dr. Armand Ruffer, who had hardly settled into the chair of pathology at the Medical School in Cairo, has now been selected to preside over the international members of the Quarantine Board. This is a loss to the Medical School, but a great gain to Egypt. It is believed that the new president will be able to make authoritative statements about disease which it will be difficult for the most anti-English member to gainsay. Dr. Mackie, who has been for many years the English member of the board, is also obliged to resign by reason of ill-health and his place at Alexandria will be filled by Dr. D. H. Attfield, at present quarantine officer at Suez and director of the pilgrims' camps during the Haj.

Venice Congress.

The Government officials selected to represent Egypt at the Plague Congress at Venice are Muhammad Pasha Cherif, Under Secretary of Foreign Affairs, and Mr. Milton, Director of Kasr-el-Aini Hospital.

Cairo, Feb. 10th.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the necessary examinations, and having conformed to the by-laws and regulations, have been admitted Members of the College, and are now entitled to practise medicine, surgery, and midwifery:—

Allen, Charles Percival, L.R.C.P. Lond., Middlesex Hospital.
Allen, James Lynn, L.R.C.P. Lond., Cambridge University and St. George's Hospital.
Ambrose, George Patrick, L.R.C.P. Lond., Westminster Hospital.
Arthur, Joseph Hugh, L.R.C.P. Lond., London Hospital.
Ashford, William, L.R.C.P. Lond., St. Thomas's Hospital.
Baird, Roy Fearon, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Barton, Charles Nathaniel, L.R.C.P. Lond., St. George's Hospital.
Beards, Ernest Jonathan, L.R.C.P. Lond., Mason College, Queen's, and General Hospitals, Birmingham.
Bebb, Richard, L.R.C.P. Lond., London Hospital.
Bennetts, Archibald James, L.R.C.P. Lond., St. Mary's Hospital.
Bernhardt, Dudley Richard, L.R.C.P. Lond., St. Mary's Hospital.
Berry, Herbert George, L.R.C.P. Lond., St. Bartholomew's Hospital.
Berry, Sidney Herbert, L.R.C.P. Lond., Charing-cross Hospital.
Binckes, Frederick William, L.R.C.P. Lond., St. Thomas's Hospital.
Blackwood, John, L.R.C.P. Lond., University College Hospital.
Bletchly, George Playne, L.R.C.P. Lond., Middlesex Hospital.
Booker, Charles William, L.R.C.P. Lond., Guy's Hospital.
Bottomley, Francis Carr, L.R.C.P. Lond., Cambridge University and St. George's Hospital.
Bremridge, Richard Harding, L.R.C.P. Lond., Oxford University and St. Bartholomew's Hospital.
Buendia, Nicolas, L.R.C.P. Lond., University of Columbia, Botago, and St. Bartholomew's Hospital.
Burney Charles Dudley Francis, L.R.C.P. Lond., Charing-cross Hospital.
Burt, Albert Hamilton, L.R.C.P. Lond., King's College Hospital.
Caley, Thomas Aloysius, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds, and Royal Infirmary, Edinburgh.
Carnes, William, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Chevallier, Claude Lionel, L.R.C.P. Lond., St. Thomas's Hospital.
Clarkson, Colin Campbell, L.R.C.P. Lond., University College Hospital.
Clough, William Henry, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Cobbledick, Arthur Stanbury, L.R.C.P. Lond., University College and Royal Infirmary, Bristol.
Coutts, John Morton Sim, L.R.C.P. Lond., University College Hospital.
Dakin, Thomas Burns, L.R.C.P. Lond., London Hospital.
D'Amico, Carmelo De Piro, L.R.C.P. Lond., University of Malta.
Densham, Walter Arnold, L.R.C.P. Lond., Charing-cross Hospital.
Dobie, Robert Douglas, L.S.A. Lond., King's College Hospital.
Dodson, George Everard, L.R.C.P. Lond., St. Bartholomew's Hospital.
Dykes, Charles Reginald, L.R.C.P. Lond., University College and Royal Infirmary, Bristol.
Eardley, William, L.R.C.P. Lond., Cambridge University and London Hospital.
Eddy, James, L.R.C.P. Lond., Middlesex Hospital.

Edleston, Richard Shafta Chambers, L.R.C.P. Lond., St. Bartholomew's Hospital.
Eagland, Humphrey, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital and Hants Royal County Hospital.
Evans, Wilfred Felix, L.R.C.P. Lond., St. Bartholomow's Hospital.
Farr, Arthur, L.R.C.P. Lond., Charing cross Hospital.
Finch, William Stanley, L.R.C.P. Lond., University College, Liverpool, and University College, London.
Fogarty, Daniel, L.R.C.P. Lond., Ledwich School, Dublin, and St. Mary's Hospital.
Fordham, John William, L.R.C.P. Lond., London Hospital.
Fox, Edward Joseph, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Fulton, Henry, L.R.C.P. Lond., Guy's Hospital.
Gilbert, Leonard, L.R.C.P. Lond., St. Thomas's Hospital.
Godson, Francis Arthur, L.R.C.P. Lond., Cambridge University and Guy's Hospital.
Goffe, Ernest George Leopold, L.R.C.P. Lond., University College Hospital.
Goldie-Scott, Thomas, L.R.C.P. Lond., Edinburgh University.
Good, Hardman Allgood, L.R.C.P. Lond., King's College Hospital.
Grant, Alfred James, L.R.C.P. Lond., St. Thomas's Hospital.
Greenwood, Arthur Rowland, L.R.C.P. Lond., Middlesex Hospital.
Greenwood, Henry Harold, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Grummett, Charles Christopher, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Harding, William Joshua, L.R.C.P. Lond., St. Bartholomew's Hospital.
Harris, Noel Hugh, L.R.C.P. Lond., St. Bartholomew's Hospital.
Hartley, James Victor, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Hasslacher, Francis Joseph Maria, L.R.C.P. Lond., King's College Hospital.
Haynes, George Secretan, L.R.C.P. Lond., St. Bartholomew's Hospital.
Herrington, Edmund William, L.R.C.P. Lond., St. Mary's Hospital.
Howlett, George Dalziel, L.R.C.P. Lond., St. Mary's Hospital.
Hudson, Corrie, L.R.C.P. Lond., University College and Royal Infirmary, Bristol, and Charing-cross Hospital.
Hughes, John Brierley, L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.
Hunt, Edward Lewis, L.R.C.P. Lond., St. George's Hospital.
Jennings, Richard Edward William, L.R.C.P. Lond., University College and Royal Infirmary, Bristol, and St. Bartholomew's Hospital.
Joynson, Alfred William, L.R.C.P. Lond., Royal College of Surgeons and Adelaide Hospital, Dublin, and Charing-cross Hospital.
Langdon, Henry Charles Theodore, L.R.C.P. Lond., Combridge University and St. Bartholomew's Hospital.
Langworthy, Edward Southwood, L.R.C.P. Lond., St. George's Hospital.
Lewis, Cecil Ernest Millington, L.R.C.P. Lond., Cambridge University and Middlesex Hospital.
Liversidge, William, L.R.C.P. Lond., University College Hospital.
Lynch, Stephen Frederick, L.R.C.P. Lond., King's College Hospital.
Marriage, Herbert James, L.R.C.P. Lond., St. Thomas's Hospital.
Marsh, Henry Rupert, L.R.C.P. Lond., Guy's Hospital
Mayston, Robert William, L.R.C.P. Lond., Guy's Hospital.
Michod, Frederick Archibald Hope, L.R.C.P. Lond., St. Mary's Hospital.
Millichamp, George Ernest, L.R.C.P. Lond., Toronto General Hospital and Toronto University, and London Hospital.
Moore, Julius, L.R.C.P. Lond., Guy's Hospital.
Mudd, Frank Burnand, L.R.C.P. Lond., Middlesex Hospital.
Neild, Newman, L.R.C.P. Lond., Owens College and General Infirmary, Manchester.
Norrington, Lawrence Weekes, L.R.C.P. Lond., University College and General Infirmary, Bristol.
Oxley, Alexander Wemyss, L.R.C.P. Lond., University College Hospital.
Oxley, William Henry Francis, L.R.C.P. Lond., Firth College, Sheffield, and St. Bartholomew's Hospital.
Parker, Lionel Edmund Longworth, L.R.C.P. Lond., St. George's Hospital.
Parsons, Harold Campbell, L.R.C.P. Lond., Toronto General Hospital and Toronto University.
Parsons, Henry Francis, L.R.C.P. Lond., University College and Royal Infirmary, Bristol.
Priestley, Thomas, L.R.C.P. Lond., Firth College, Sheffield, and University College Hospital.
Reynolds, Leonard Grugeon, L.R.C.P. Lond., Guy's Hospital.
Richards, William Jones, L.R.C.P. Lond., St. Bartholomew's Hospital.
Roach, Sidney, L.R.C.P. Lond., St. Bartholomew's Hospital.
Robinson, John Charles Reynolds, L.R.C.P. Lond., St. Thomas's Hospital.
Ross, Murdoch William, L.R.C.P. Lond., Otago University, New Zealand.
Scanlon, Leonard Edmund, L.R.C.P. Lond., Owen's College and Royal Infirmary, Manchester.
Scowby, Edward Thomas, L.R.C.P. Lond., Guy's Hospital.
Sessions, Frederick Leonard, L.R.C.P. Lond., Owen's College and Royal Infirmary, Manchester.
Somers, Charles Dudley, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Stansfeld, John Stedwell, L.R.C.P. Lond., Oxford University, Royal Infirmary, Glasgow, and Charing Cross Hospital.
Stevens, Herbert John, L.R.C.P. Lond., Charing Cross Hospital.
Sutcliffe, William, L.R.C.P. Lond., Mason's College, Queen's and General Hospitals, Birmingham.
Sworn, Arthur Benjamin Richman, L.R.C.P. Lond., University College Hospital.
Tarbet, William Edward, L.R.C.P. Lond., University College, Liverpool, and University College Hospital.
Taylor, Frank Edward, L.R.C.P. Lond., Yorkshire College and General Infirmary, Leeds.
Temple, Percy George, L.R.C.P. Lond., Guy's Hospital.
Thomas, Ellis Rae, L.R.C.P. Lond., Guy's Hospital
Thomas, Herbert John, L.S.A. Lond., University College and Royal Infirmary, Bristol, and Guy's Hospital.
Thomas, Robert Russell, L.R.C.P. Lond., St. Bartholomew's Hospital.
Torrance, James, L.R.C.P. Lond., Otago University, New Zealand, and St. Bartholomew's Hospital.
Townsend, Henry William Worth, L.R.C.P. Lond., Cambridge University and St. Thomas's Hospital.
Tulk-Hart, Thomas John Augustus, L.R.C.P. Lond., Guy's Hospital.
Turnbull, Hugh Prideaux, L.R.C.P. Lond., St. Georges's Hospital.
Vulliamy, Justin Theodore, L.R.C.P. Lond., St. Thomas's Hospital.
Walker, William Percival, L.R.C.P. Lond., Owens College and Royal Infirmary, Manchester.
Wall, James Bligh, L.R.C.P. Lond., St. Mary's Hospital.
Wallis, William, L.R.C.P. Lond., Anderson's College, Glasgow, Firth College, Sheffield, and Charing-cross Hospital.
Ward, Elbacott Leamon, L.R.C.P. Lond., Middlesex Hospital.
Waters, John Frank William, L.R.C.P. Lond., Middlesex Hospital.
Waters, William Arthur Pernow, L.R.C.P. Lond., Oxford University and Middlesex Hospital.
Watkins, John Prestwood, L.R.C.P. Lond., Guy's Hospital.
Watson, George Trustram, L.R.C.P. Lond., Cambridge University and St. George's Hospital.
Whicher, Stanley, L.R.C.P. Lond., Guy's Hospital.
White, Malcolm, L.R.C.P. Lond., St. Thomas's Hospital.
Wiggins, William Denison, L.R.C.P. Lond., St. Mary's Hospital.
Willis, Harry Alexander Legge, L.R.C.P. Lond., St. Mary's Hospital.
Wills, Bertram Shera, L.R.C.P. Lond., St. Thomas's Hospital.
Wood, John Hutchinson, L.R.C.P. Lond., Durham University and St. Bartholomew's Hospital.

CONJOINT BOARD OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations have been admitted Diplomates in Public Health—viz.:

Boulton, Arthur, M.R.C.S. Eng., L.R.C.P. Lond., Cambridge University and Charing-cross Hospital.
Erskine, Alexander McConnell, M.B., B.Ch., B.A.O. R.U.I., Queen's College, Belfast, and Royal University of Ireland, Dublin.
Evans, John Morton, L.R.C.P. Lond., M.R.C.S. Eng., Glasgow and London Hospital.
Gardiner, Peter, M.B., C.M. Glasg., Glasgow University, Edinburgh and St. Mary's Hospital.
Howse, Percy William McDowall, F.R.C.S. Eng., L.R.C.P. Lond., L.S.A., London Hospital.
Jones, William Black, M.D. Lond., L.R.C.P. Lond., M.R.C.S. Eng., St. Bartholomew's Hospital.
Mapleton, Henry Banbury, M.B., C.M. Edin., Edinburgh University and University College Hospital.
Maynard, Edwin, M.R.C.S. Eng., L.R.C.P. Lond., London Hospital.
Parker, Henry Thomas, M.D. Lond., M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital.
Richards, Joseph Stewart, M.D. Lond., L.R.C.P. Lond., M.R.C.S. Eng., St. Bartholomew's, University College, and Guy's Hospitals.
Roberts, George Augustus Edward, M.R.C.S. Eng., L.S.A., Middlesex Hospital.
Russell, Charles Henry, L.R.C.P. Lond., M.R.C.S. Eng., Charing-cross Hospital.
Smith, Sydney Calvin, L.R.C.P. Lond., M.R.C.S. Eng., Middlesex Hospital.
Steegman, Edward John, M.B., B.S. Durh., M.R.C.S. Eng., L.R.C.P. Lond., Durham University, St. Mary's and University College Hospitals.

Nine gentlemen were referred for six months.

UNIVERSITY OF LONDON.—At the Intermediate Examination in Medicine in January the following candidates were successful in the subjects indicated:—

ENTIRE EXAMINATION.

First Division.—Frederick Charles Borrow, St. Bartholomew's Hospital; and Percy Cooper Colls, King's College.

Second Division.—John White Alured, Owens College; Cornelia Bonté Sheldon Amos, London School of Medicine for Women; Hanway Richard Beale, St. Thomas's Hospital; Harold Selwyn Capper, University College; Clement Woodthorpe Chaplin, London Hospital; David Davies, University College; Henry George Drake-Brockman, St. George's Hospital: Annie Chapman Gowdey, London School of Medicine for Women; John Lupton Holt, Yorkshire College; William Sam Inman, Sheffield Medical School and Firth College; Kenneth Fraser Lund, University of Cambridge and University College, Liverpool; Louisa Martindale, London School of Medicine for Women; George Norman Meachen, Guy's Hospital; Bernard Elwell Potter, Charing-cross Hospital; Herbert Midgley Reeve, Guy's Hospital; William Hartley Tattersall, Owens College; Ethel Miller Vernon, London School of Medicine for Women; and William Bertram Watson, St. Mary's Hospital.

EXCLUDING PHYSIOLOGY.

First Division.—Frederick Fenn Elwes, Middlesex Hospital; and Erie Evans, London School of Medicine and Birkbeck Institute.

Second Division.—Ernest Clarkson Bourdas, St. Thomas's Hospital; Charles Richard Brown, Harold Burrows, William Henry Cazaly, B.A., and John Moore Collyns, St. Bartholomew's Hospital; Wilfrid Henry Coltart, Birmingham Medical School; Walter Seymour Danks, St. Bartholomew's Hospital; John Bernard Davey, Middlesex Hospital; Edward Percy Hughes Dudley, St. Bartholomew's Hospital; Susan Jane H. Eastwick-Field, London School of Medicine for Women and Royal Free Hospital; Alexander Fraser, Guy's Hospital; Cecil Scarlett Frost, Thomas Hall Gandy, and John Stansfield Gayner, St. Bartholomew's Hospital; Ernest Cutcliffe Hadley, Mason College; William Walter Harrison, Guy's Hospital; Philip Maynard Heath,

University College; James Gerald Fayrer Hosken, and Seymour Alfred Milten, St. Bartholomew's Hospital; Arthur Moon, Guy's Hospital; James Robert Morton, London Hospital; Bertram Wilmore Moss, Guy's Hospital; David Thomas Price, Bristol Medical School; Charles Gabriel Seligmann, St. Thomas's Hospital; Walter Grahame Stewart, Guy's Hospital; Philip Graham Stock, University College, Bristol; Margaret Helen Style, London School of Medicine for Women; Alfred Bertram Vine, Middlesex Hospital; John Frederick Walker, London Hospital; Charlotte Louise Weetman, London School of Medicine for Women; Albert John Walton Wells, St. Bartholomew's Hospital; and Robert Eardley Byam Wilmot, St. Mary's Hospital.

PHYSIOLOGY ONLY.

First Division.—Thomas Aubrey, University College, Bristol; George Valentine Miller, University College; Walter Bernard Secretan, Guy's Hospital; and John Godfrey Cresswell Taunton, Mason College.

Second Division.—Frank Butterfield, Owens College and Manchester Royal Infirmary; Arthur Hunton Carter, Guy's Hospital; Charles Edwin Durrant, St. Thomas's Hospital; Herbert Devas Everington, St. Bartholomew's Hospital; Herewald Evelyn Croker Fox, Guy's Hospital; Edward Alfred Gates and Francis Ley Augustus Greaves, St. Thomas's Hospital; Helen Beatrice Hanson, London School of Medicine for Women; Henry William Harding, St. Thomas's Hospital; Ronald Hatfield, St. Bartholomew's Hospital; Edgar Leach, Owens College; Theodore Marles Thomas, University College; Joseph Arthur Mawson, Yorkshire College; John Austin O'Dowd, Mason College; George Chetwode Owsley, Guy's Hospital; Arthur Ricketts, University College; Harold Alfred Schülberg and Sydney Richard Scott, St. Bartholomew's Hospital; Jeremiah Thornton, London Hospital; and Lewis Augustus Walker, St. Bartholomew's Hospital.

ROYAL COLLEGE OF SURGEONS IN IRELAND: Fellowship Examination.—Mr. Ernest George Fenton, L.R.C.S. Irel., &c., having passed the necessary examination, has been admitted a Fellow of the College.

The following gentlemen have passed the primary part of the Fellowship examination:—

F. Warren, J. M. M. Crawford, S. R. Godkin, and H. Pringle.

FOREIGN UNIVERSITY INTELLIGENCE.—*Tomsk:* Dr. Th. T. Romanoff has been appointed Extraordinary Professor of Pathological Anatomy.—*Breslau:* Dr. Heinrich Sachs has qualified as *privat docent* of Internal Medicine.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The death of the following eminent foreign medical man is announced:—Dr. Max von Schleiss Löwenfeld, formerly Body Surgeon to King Maximilian II. of Bavaria, at the age of eighty-seven years. He published works on many subjects, especially dealing with language from a psychological point of view. His latest work was "Theses cosmologicæ septuaginta," which appeared in 1882. His father was an authority on medical jurisprudence and a great champion of vaccination in Bavaria.

SOUTHPORT CONVALESCENT HOSPITAL.—The annual meeting of the Southport Convalescent Hospital was held on Feb. 11th. Alderman J. Unwin presided, and remarked that the hope he expressed last year that the number of patients would exceed 5000 had been fulfilled, for there had been 5058. The governors of the Cotton Districts Convalescent Fund had sent 1767, as against 1636 in 1895. The committee had decided to make a grant of £500 from year to year to the governors of the Cotton Districts Convalescent Fund to assist them in an extension of the hospital, which would provide about fifty additional bedrooms and would increase the day-room accommodation.

THE SOCIETY OF MEDICAL OFFICERS OF HEALTH AND THE VACCINATION COMMISSION.—A meeting of the Society of Medical Officers of Health was held at the offices of the Board of Works for the St. Giles's District on Friday last, Dr. T. P. Bate, the president, being in the chair. Dr. R. Dudfield presented a draft report from the council upon a paper on the "Report of the Royal Commission on Vaccination," communicated by Dr. Bond. In the report the council endorsed all that the Commissioners said in favour of general re-vaccination and expressed regret that no suggestions had been made by which such general re-vaccination might be secured. They held that the State should not waive its right of compulsion in relation to vaccination by introducing a "conscience clause" in any future legislation, and recommended the society to oppose such alteration of the law, as being a dangerous innovation, both on social and hygienic grounds, as they considered the danger of vaccination to have been greatly exaggerated. The report concluded with a long list of recommendations of changes in the mode of enforcing vaccination in the event of a Bill being introduced to give effect to any, or all, of the recommendations of the Royal Commission.

DR. LAWRIE of Weymouth has promised a donation of £100 towards establishing a Children's Convalescent Hospital in the town in commemoration of the Queen's reign.

DR. FERRIER has been elected a member of the Athenæum Club under the complimentary provisions of Rule II., which empowers the annual election by the committee of nine persons of distinguished eminence in science, literature, the arts, or for public services.

UNIVERSITY OF CAMBRIDGE.—Dr. Donald MacAlister has been appointed an Elector to the Professorship of Pathology; Professor Clifford Allbutt an Elector to the Professorship of Surgery; Dr. S. Ringer an Elector to the Downing Professorship of Medicine; and Sir W. H. Flower an Elector to the Professorship of Anatomy.

A DEPUTATION from the Bradford and District Medico-Ethical Society has interviewed Mr. Wanklyn, Member of Parliament for the Central Division of Bradford, and explained to him the strong objections to the Midwives Registration Bill. Mr. Wanklyn promised to oppose the Bill. The society obtained a promise to the same effect from Captain Greville, the Member for the Eastern Division of Bradford, at the time of his election last year.

ON the 20th inst., at a meeting of the Crickhowell branch of the St. John Ambulance Association, Lady Bailey, the wife of the Lord Lieutenant of Brecknockshire, presented those members who had recently qualified in "first aid" with their certificates. Subsequently her ladyship, on behalf of the class, presented to the lecturer, Mr. P. E. Hill, M.R.C.S. Eng., a handsome silver-mounted malacca walking-stick, bearing a suitable inscription.

AT a recent meeting of the subscribers to the Sir Augustus Harris Memorial Fund it was decided that the memorial should take the form of a drinking-fountain, to be erected by the western wall of the Covent-garden Opera House and the provision of a bed at the Charing-cross Hospital, to be known as the Sir Augustus Harris Memorial Bed. An executive committee was appointed to carry out these objects, and it is understood that £2000 have been subscribed.

LIVERPOOL CANCER HOSPITAL.—The annual meeting of the Liverpool Cancer Hospital was held on Feb. 19th at the town hall, Alderman Radcliffe presiding. The report for 1896 showed that there were 232 in-patients during the year, being an increase of 52 over the number for 1895. The average daily number in the hospital was 25 and the whole of the beds were frequently in use at the same time. The attendances of out-patients were 30,561, or an average of over 100 per day, and it was now absolutely necessary to enlarge the out-patients' department. The accounts showed a considerable excess of expenditure over income.

MANCHESTER ROYAL LUNATIC HOSPITAL.—The report of the committee of the Manchester Royal Lunatic Hospital, better known perhaps as the Cheadle Asylum, states that during the whole of last year the accommodation for patients, both in the main building as well as in the neighbouring houses, has been taxed to the uttermost. Mr. Mould, the medical superintendent, in his report, says that the recoveries for the year were more than 50 per cent. on the total number of admissions. The deaths were somewhat in excess of the usual average, the greater number from general paralysis and hopelessly incurable brain diseases. The great age attained by many of the patients was remarkable, and the average age at death was sixty-five years.

PROPOSED INFECTIOUS DISEASES HOSPITAL IN CHESTER.—The Chester town council have applied for a loan of £20,000 for the erection of an infectious diseases hospital, the proposed site for which is part of an estate at Sealand belonging to the corporation. At an inquiry held at the Chester town hall by the inspectors of the Local Government Board the town clerk explained that the present arrangements for the treatment and isolation of fever cases were inadequate, and the infirmary board did not see their way to continue them. The hospital would provide accommodation for forty-six beds. The inspectors after examining the plans proceeded to visit the locality, and will report to the Local Government Board on the subject.

UNIVERSITY OF BRUSSELS.—At the February examination for the M.D. degree Mr. J. R. Gaudoin, L.S.A., passed with honours. Mr. John O. Moore, L.R.C.P., F.R.C.S. Irel., and Mr. Charles Butler, L.R.C.P. Lond., M.R.C.S. Eng., also received the degree.

MEDICAL MAGISTRATE.—Mr. William Kickham Heffernan, medical officer of the Killenaule Dispensary, has been appointed to the commission of the peace by the Lord Chancellor on the recommendation of the Earl de Montalt, Lord-Lieutenant of the County Tipperary.

LEEDS GENERAL INFIRMARY.—Two new operating theatres, divided from one another by the instrument room, have just been provided at the Leeds General Infirmary. They have skylights in the roof and windows at the sides and are also lighted by electricity. A plot of land in Sunnybank-terrace, immediately behind the Infirmary, has been recently bought, and will be used as a site for a supplementary Home for the nurses.

MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—The extension of the Monkwearmouth and Southwick Hospital was formally opened on Feb. 16th by Lady Williamson, who unlocked the Williamson ward with a golden key presented to her on behalf of the executive committee. Sir Hedworth Williamson, the president of the hospital, made a speech congratulating the managers on the successful completion of the work. On the afternoon of the following day the general public were freely admitted to inspect the new wards.

FINSBURY DISPENSARY.—At the annual court of governors of the Finsbury Dispensary, Brewer-street, E.C., held on Feb. 18th, the committee announced that Mr. R. D. Dalál, M.R.C.S. Eng., L.R.C.P. Lond., had been appointed resident medical officer in succession to Mr. Alfred Philipps, M.R.C.S. Eng., L.S.A., who had resigned after twenty-six years' tenure of office, and had been made an honorary life governor. Mr. Dalál is a Parsee and a native of Bombay; he studied medicine at St. Bartholomew's Hospital and is supposed by some to be the first of the Queen's Indian subjects to receive a public medical appointment in England. At the same meeting Sir Dinshaw Petit, Bart., of Bombay, was elected a vice-president of the institution.

NOTTINGHAM HOSPITAL FOR WOMEN. — The annual meeting of the Castlegate Hospital for Women, Nottingham, was held on Feb. 17th at the Exchange, Mr. E. Bond presiding. The report of the medical staff stated that the work of the hospital during the past year had been highly successful. There had been 145 in-patients, on whom 111 operations had been performed, and there had been 7 deaths, including 2 cases which were admitted in a semi-moribund condition. In the out-patient department 843 new cases had presented themselves for treatment. Anæsthetics had been administered 111 times with no casualty and no case of septic disease had arisen in the hospital. The statement of accounts showed that the whole of the debt on the building fund had been paid off and that the balance due to the bank had been reduced to £608.

ABERDEEN ROYAL INFIRMARY.—The 157th annual report shows that 2124 cases were treated in the infirmary during 1896 at a total cost of £7903 14*s.* 10*d.*, or £49 17*s.* 4*d.* per bed. The ordinary income (£6769) was £1134 short of the ordinary expenditure, and £1458 was applied out of the extraordinary income (£3818) to meet the deficit. Lady students are now admitted to attend hospital practice. It is hoped the new medical block—the last part of the re-construction scheme—will be fit for occupation before Midsummer. The Hospital Saturday movement brought £550 to the infirmary and £50 to the convalescent hospital; 175 patients were admitted to the latter institution. Satisfactory progress is being made with the construction of the new convalescent hospital at Hillhead of Pitfodels. Of the 2124 infirmary patients, 776 were medical and 1348 were surgical cases. Deducting patients who died within forty-eight hours of admission the death ratio in medical cases was about 1 in 8·7 and in surgical cases 1 in about 29. Besides the above, there were 3249 out-patients—viz., 224 medical, 692 surgical, 1437 casualty, and 896 eye cases. The average number in hospital was 158·5 and the average number of days in hospital, 29·5.

CAMBRIDGE AND DISTRICT MEDICO-ETHICAL SOCIETY.—The following officers have been appointed:—President: Dr. Carver. Vice-President: Professor Allbutt. Treasurer: Mr. Deighton. Secretary: Mr. Penberthy. Committee: Professor Bradbury, Mr. Edwards, Mr. Cox, Mr. Fordyce, Mr. Hyde Hills, Dr. Roper, Dr. Ingle, and Mr. Syme.

GUY'S HOSPITAL INSTITUTION FOR TRAINED NURSES.—The twelfth annual report of the Guy's Hospital Institution for Trained Nurses shows that the work of the institution has been carried on during the past year with increasing activity and success. Applications for nurses have reached 1191, as compared with 1150 in the preceding year, and the applications have exceeded by 240 the actual number of cases for which nurses were supplied. The number of cases actually nursed was 951 and the fees received by nurses amounted to £6798. The nurses vary in number from 85 to 90. The institution is managed by a board consisting of four *ex-officio* members—the President, the treasurer, the superintendent, and the matron of the hospital, together with three representatives of the governors and two representatives of the medical and surgical staff elected annually.

HUNTERIAN SOCIETY.—The annual meeting was held at the London Institution on Wednesday, Feb. 10th, 1897, at 8, P.M., the President, Dr. G. E. Herman, in the chair. The following is a list of the officers who were elected for 1897-98:—President: Dr. G. E Herman. Vice-Presidents: T. H. Openshaw, M.S., Hingston Fox, M.D., S. H. Appleford, M.D., and F. J. Smith, M.D. Treasurer: F. Charlewood Turner, M.D. Trustees: H. I. Fotherby, M.D., and F. M. Corner, M.R.C.S. Librarian: T. H. Arnold Chaplin, M.D. Orator: Peter Horrocks, M.D. Secretaries: A. H. Tubby, M.S., and Arthur T. Davies, M.D. Council: Sir Hugh Beevor, M.D., J. S. E. Cotman, M.R.C.P. Edin., L. A. Dunn, M.S., Fortescue Fox, M.D., Hope Grant, F.R.C.S. Edin., J. W. Oliver, M.D., W. Rawes, M.D., H. J. Sequeira, M.R.C.S., St. Clair B. Shadwell, M.D., L. E. Shaw, M.D., G. J. B. Stevens, M.R.C.S., and J. F. Woods, M.D. After the annual meeting the society adjourned to the Theatre of the London Institution to hear the Hunterian Oration by Dr. Hingston Fox on the "Life and Times of Dr. William Hunter," an abstract of which was published in our columns last week.

DIPHTHERIA IN LONDON.—There was noticeable diminution in the amount of diphtheria in London during the first four registration weeks of the current year, as compared with the preceding like periods. In the last five weeks of 1896, which year had fifty-three weeks for registration purposes, there were no less than 1442 notified cases of diphtheria in the county, and these yielded a weekly average of 288, four districts of the metropolis having as many as 432 cases notified in them in the period and all the sanitary areas suffering invasion. In the succeeding four weeks ended with Jan. 30th there were only 915 notified cases, and one district recorded no notification of the disease, the weekly average for the county being 229, and only three districts having upwards of 50 notified cases, with 246 in the aggregate. Other three districts had only 4 notifications between them. Thus, in so far as amount of disease is concerned, the period was of a distinctly more hopeful character than many of its predecessors. In the last period of 1896 the deaths registered yielded a weekly average of 51, and presented a per case mortality of 17·8 per cent. of the notifications. In the four weeks of the present year the registered deaths were 239 in number, and the per case mortality as high as 26·1 per cent. Of course we have here to contend with deaths in many instances resulting from cases notified in the preceding period, but even so the mortality rate is very high. Coming to the three completed weeks of February we find that matters so far as fatal diphtheria is concerned are still favourable. Thus in the week ended Feb. 6th the deaths, which in the three preceding weeks had numbered 52, 63, and 53 respectively, fell to 46, although still 5 in excess of the corrected decennial average for the fifth week of the period 1887-96. Camberwell was credited with 7 deaths and Hackney with 5 deaths. The whole of the 46 deaths were of young persons aged under twenty years, and 883 patients suffering from the disease were left in hospital at the close of the week. There were as many as 14 deaths registered from diphtheria in the week in the outer ring, of which 8 occurred

in persons residing in the West Ham district. In the week ending Feb. 13th there was a further satisfactory fall in the number of registered deaths to 37—a number actually 2 below the corrected decennial average for the particular week. Only one of these was in the person of an adult over twenty years of age. Mile-end Old Town and Camberwell had each four deaths credited to them, and the hospitals at the close of the week contained 877 diphtheria patients, the admissions in the week having been 104, as compared with 93, 116, and 95 in the three preceding weeks. In the outer ring there were 11 deaths registered, 3 being in West Ham district. In other words, there were 25 deaths in the suburbs of London in the fortnight, as compared with 49 in the thirty-two great towns of the Registrar-General outside London in the same period. Last week the deaths registered from diphtheria in London numbered 40—a number 5 in excess of the corrected decennial average for the seventh week. Camberwell area had 6 deaths credited to it, Lambeth and Greenwich each 4, and Wandsworth 3 deaths. Only one of the 40 deaths was of a person aged over twenty years, and 5 were of infants under one year of age. The admissions to hospital in the week were 104 in number and the cases remaining in hospital on Saturday last 853, against 881 at the same period of January. The deaths registered from diphtheria in the outer ring last week fell to 8, half of which were in the West Ham registration district.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Petroleum Lamp Accidents.

THE House of Commons has re-appointed the Select Committee on the keeping, selling, using and conveying of petroleum and other inflammable liquids, and the precautions to be adopted for the prevention of accidents with petroleum lamps. The committee consists of Sir Thomas Carmichael, Mr. Jesse Collings, Mr. Alexander Cross, Mr. Fortescue Flannery, Sir Edward Hill, Mr. Wootton Isaacson, Mr. Lyon, Mr. McKillop, Mr. Mundella, Mr. Pollock, Mr. Harold Reckitt, Mr. Compton Rickett, Sir Benjamin Stone, Mr. Tully, and Mr. Ure. The Committee will meet at once, and it is hoped will very shortly complete its inquiry, which has already extended over two sessions.

Medical Officers to Volunteer Corps.

During the debate in Committee of Supply on the vote for the Volunteers Colonel Sir H. Howard Vincent called attention to the work of medical officers in volunteer corps, and represented to the War Office that these officers should receive the equipment allowance of £20 recently given to combatant officers in the same service.—Mr. Brodrick, Under-Secretary of State for War, undertook to consider the matter.

Introduction of Lord Lister.

Lord Lister took his seat in the House of Lords for the first time on Tuesday, Feb. 23rd. His lordship was introduced by Lord Watson and Lord Playfair.

HOUSE OF COMMONS.

THURSDAY, FEB. 18TH.

Pauper Children in London.

Mr. Hazell asked the President of the Local Government Board whether the remanded children, who were one of the classes for whom it was proposed to establish the new Metropolitan Children's Asylums' Board, under the Local Government Board, were already under the Home Office and the London School Board; and whether, seeing that it was through the action of the School Board that many of them were first apprehended, and that they were subsequently placed under the Home Office, he would consider the advisability of leaving the temporary provision for them in the hands of one or other of the authorities which already had to deal with them.—Mr. Chaplin replied that under the existing law the guardians, and the guardians alone, were responsible for the care and maintenance of children who, prior to the question of an order being made for removal to an industrial school being determined, were remanded to the workhouse. In many workhouses there was no suitable accommodation for these children, or only accommodation which did not properly provide for their being kept separate from other inmates. The provision of such accommodation for children of either sex in each of the thirty unions in the metropolis, with the necessary staff for supervision, would entail a very considerable expenditure—an expenditure greatly in excess of what would be entailed by separate provision for children of the class referred to. The total number of such children for which provision would be required would probably be not more than 100 or 120.

Disease in the Army in India.

Lord George Hamilton, replying to a question on this subject, informed the House that the Departmental Committee consists of Lord Onslow, President, Sir James Peile, member of the Council of India, Surgeon-Major-General W. Taylor, Army Medical Department, and Surgeon-Colonel J. Richardson, Indian Medical Service (retired).

FRIDAY, FEB. 19TH.

The Payment of Medical Officers.

Sir Walter Foster asked the President of the Local Government Board whether his attention had been called to the action of the West Bromwich Guardians in appointing a district medical officer at a fixed salary, which was to include payment for all those cases which the Consolidated Order of July 24th, 1847, expressly provided should be paid for as extras, and whether Articles 177 to 183 of this Order had been suspended as regards the West Bromwich Union; if so, whether he would inquire if the reasons which justified the suspension still held good, seeing that the Local Government Board last year called special attention to the articles of the order which required that district medical officers should have extra remuneration for operations and certain other cases.—Mr. T. W. Russell, on behalf of Mr. Chaplin, replied: The operation of the articles in the regulations relating to the payment of extra fees to medical officers in the West Bromwich Union was suspended in 1862 on the application of the guardians. The guardians stated that they proposed this arrangement in consequence of continual disputes in connexion with claims by the medical officers to fees. All the medical officers of the Union who have been appointed since that time have been appointed at salaries inclusive of the extra fees. The Local Government Board have not received any suggestions from the guardians or the officers that the arrangement is not working satisfactorily.

Death-bed Evidence.

Sir Matthew White Ridley, replying to a question put to him by Mr. Pickersgill, said he had seen the newspaper reports of the trial of the case Regina *v.* Greatorex Smith, an indictment for performing an illegal operation. It appeared from those that the learned judge decided that, under the circumstances, the statement made by a young woman when in a dying condition was inadmissible in evidence. That being so, it became, of course, a matter of regret that she should have been troubled upon her death-bed. He was satisfied, after careful inquiry, that the police inspector in reading over to the prisoner on his arrest a portion of the statement which the young woman had made, and, secondly, in taking the prisoner to the bedside of the dying woman and putting questions to her in his presence, did no more, under painful and difficult circumstances, than his duty in endeavouring to obtain the evidence of the young woman—the sole witness—by the only means in his power. He could not admit that his conduct deserved censure. If he thought that it was a growing practice on the part of detective officers of the Metropolitan Police to attempt to get in as evidence statements which would otherwise be inadmissible by arranging that they should be made in the prisoner's presence or read over to him, he would certainly take action in the matter.

MONDAY, FEB. 22ND.

Vaccination in the Post Office Service.

Mr. Channing asked the secretary to the treasury, as representing the Postmaster-General, whether the attention of the Post Office authorities had been called to the case of Miss Annie Jane Maxted, appointed six months ago as an assistant or clerk to the department, then pronounced healthy and strong, compelled as a condition to appointment to be re-vaccinated, suffered in consequence it is stated for six months, terminating in death on the 2nd instant; whether there was any authority by statute to enforce the above condition; whether it was ordered by the department assuming the power; and whether, while the recommendations of the Royal Commission were unconsidered by Parliament, the order would be continued.—Mr. Hanbury: The attention of the Postmaster-General has been called to the case of Miss Maxted, but the facts are not as represented to the hon. Member. Miss Maxted was not pronounced healthy and strong six months ago; on the contrary, the medical officer who examined her reported that she was not strong and was suffering from an enlargement of the superficial cervical glands of the neck. The cause of her death is certified to have been lymphadenoma (Hodgkin's disease), and as a secondary cause dermato-melasma suprarenale (Addison's disease), and neither of these resulted from the re-vaccination. Re-vaccination as a condition of appointment in the Post Office is enforced, not by Statute, but by Post Office regulations. The regulation has been in force since 1863, and in view of the remarkable immunity from small-pox enjoyed by Post Office servants under this regulation it is not proposed to alter it.

Metropolitan Pauper Children.

Mr. Chaplin, replying to a question put by Dr. Farquharson, said he was informed by the managers of the Metropolitan Asylum District that during the year 1896 275 children suffering from scarlet fever and 15 from diphtheria were removed from Poor-law schools in the metropolis (including two certified schools) to asylums of the managers. There were no cases of small-pox. The schools from which children were removed were the separate schools of Islington, Hackney, Strand, Holborn, Shoreditch, Bethnal Green, St. George-in-the-East, Lambeth, and Westminster, and the schools of the Kensington and Chelsea, Central London, Forest Gate, and North Surrey school districts. Children were also removed from the *Exmouth* training ship and from the North Hyde and St. Agnes Orphanage certified schools. The managers further informed him that it was not possible to state with precision what had been the cost of each patient per week, but that the average cost might be put at about 21s. per week per patient, this sum including maintenance and common charges.

TUESDAY, FEB. 23RD.

Mortality in India.

Lord George Hamilton said, in reply to a question, that he had received the following information regarding mortality in the Central Provinces. The total number of deaths for the year 1895 was 349,137 and for 1896 it was 468,469. The latter year was exceptionally unhealthy, and it appeared that cholera deaths were 37,479 in excess of those in 1895; fever, 59,342; diarrhœa and dysentery, 9566; small-pox, 1103; other causes, 11,842. This mortality gave for the whole year a death-rate of 36·03 per 1000 in 1895 and of 49·03 per 1000 in 1896 on the present population.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BELL, F. O., M.B., C.M. Edin., has been appointed Medical Officer for the Workhouse and the Second Sanitary Wareham District of the Wareham and Purbeck Union.

COPEMAN, A. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the South Welvey Sanitary District of the Downham Union.

COWIE, GEO., M.B., C.M. Aberd., has been appointed an Assistant Medical Officer of the Infirmary, City of London Union.

DYSON, WILLIAM, M.B., Ch.B. Vict., has been appointed a House Surgeon to the Manchester Royal Infirmary.

FAGGE, A. W., M.R.C.S., has been appointed a House Surgeon to the Leicester Infirmary.

FLETCHER, D., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for Applecross, Ross.

FOULERTON, A. G. R., F.R.C.S., has been appointed Pathologist to the Chelsea Hospital for Women, Fulham-road.

FOX, E. J., M.B., C.M. Edin., has been appointed a House Surgeon to the Manchester Royal Infirmary.

FOX, G. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Walsall Workhouse, vice J. Wood, retired.

HAMPER, C. N., M.B., C.M. Edin., has been appointed *pro tem.* Medical Officer to the Chislehurst, Sidcup, and Cray Cottage Hospital.

HARDING, ANNIE, L.S.A. Lond., has been appointed on the Medical Staff of St. Stephen's Hospital, Delhi, in connexion with the Cambridge Mission.

HAWLEY, ARTHUR, L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Medical Officer to the Coventry and Warwickshire Hospital.

HERBERT, W., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Royal Hants County Hospital, Winchester.

HIGGINSON, C. G., L.R.C.P. Lond., M.R.C.S., has been appointed a House Physician to the Manchester Royal Infirmary.

HOWLETT, EDMUND H., F.R.C.S., has been appointed Surgeon to the Hull Royal Infirmary, vice J. Sherburne, resigned.

MCARTHUR, D. C., L.R.C.P. Lond., M.R.C.S., has been appointed *pro tem.* Medical Officer for the Fifth Sanitary District of the Hertford Union.

MONTGOMERY, R. J., M.A., M.B.T.C.D., F.R.C.S. Irel., has been appointed Assistant Surgeon to the St. Mark's Ophthalmic Hospital, Dublin.

PARE, J. W., M.D., C.M. Edin., L.D.S. Eng., has been appointed Dental Surgeon to the North-Eastern Hospital for Sick Children, Hackney-road, Shoreditch.

PAYNE, G. S., M.R.C.S., has been re-appointed Medical Officer of Health by the Thorney Rural District Council.

POMFRET, H. W., M.D. Vict., Ch.B., L.R.C.P. Lond., F.R.C.S., has been re-appointed Surgical Registrar to the Manchester Royal Infirmary.

RODGER, JAS., M.D., C.M. Aberd., has been appointed a Consulting Physician to the Aberdeen Royal Infirmary Incorporation.

ROXBURGH, WM., M.B., C.M. Glasg., has been appointed a Certifying Factory Surgeon for the district of Troon, Ayrshire.

STORRS, C. S., M.B., B.C. Camb., has been appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women, Fulham-road.

WALKER, F. J., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Spilsby Union.

WHITWELL, JAMES R., M.B., C.M. Edin., has been appointed Medical Superintendent to the Suffolk County Asylum, Melton.

WILKINSON, A. T., M.D., M.R.C.P. Lond., M.R.C.S., has been appointed Medical Registrar to the Manchester Royal Infirmary.

YARROW, G. E., M.D. Heidelb., L.R.C.P. Lond., M.R.C.S., D.P.H., has been re-appointed a Medical Officer for the City of London Lying-in Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ANCOATS HOSPITAL, Manchester.—Resident Junior House Surgeon. Salary £50, with board and washing.

BELGRAVE HOSPITAL FOR CHILDREN, 77 and 79, Gloucester-street, S.W.—Resident House Surgeon, for six months. Board, lodging, and washing provided.

BRENTFORD UNION.—Medical Officer and Public Vaccinator for the parish of Chiswick. Salary as Medical Officer £150 per annum, with certain stipulations as to medicines, midwifery, and vaccination fees. Applications to the Clerk, Union Offices, Isleworth.

BRISTOL GENERAL HOSPITAL.—Physician-Accoucheur and an Assistant Physician-Accoucheur.

CANCER HOSPITAL (FREE), Fulham-road, S.W.—House Surgeon for six months. Salary at the rate of £50 per annum, with board and residence.

CHELSEA, BROMPTON, AND BELGRAVE DISPENSARY, 41, Sloane-square, S.W.—House Surgeon and Secretary. Salary £95 per annum, with furnished rooms in the Dispensary House, an allowance of £20 for coals and candles, and a further allowance for a housekeeper.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant for three months.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician, for six months. Salary at the rate of £30 per annum, and board and residence provided.

EAST LONDON HOSPITAL FOR CHILDREN, Glamis-road, Shadwell, E.—House Surgeon. Board, lodging, &c., provided. No salary.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—Junior Resident Medical Officer. Salary £50.

GENERAL INFIRMARY, Northampton.—Assistant House Surgeon, unmarried. Salary £100 per annum, with furnished apartments, board, attendance, and washing.

HULL ROYAL INFIRMARY.—Honorary Assistant Surgeon for the out-patient department, for five years.

LIVERPOOL ROYAL INFIRMARY.—Honorary Physician.

LONDON HOSPITAL MEDICAL COLLEGE, Mile-end, E.—Demonstrator of Physiology. Salary £100 a year. Also Assistant Demonstrator of Anatomy. Salary £90 a year.

PARISH OF WESTRAY, Orkney.—Medical Officer and Public Vaccinator. Salary as Medical Officer £90 sterling per annum. Applications to Mr. Jas. Sinclair, Clerk, Parish Council, Westray.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Resident House Surgeon. Salary £80, with board, lodging, and laundry.

SHEFFIELD PUBLIC HOSPITAL FOR DISEASES OF THE EAR, THROAT, AND SKIN.—Honorary Physician for the out-patients. Also Honorary Physician for the out-patient department for Diseases of the Throat.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY, 189, High-street, Stoke Newington, N.—Junior Resident Medical Officer. Salary for the first three months at the rate of £50 per annum, and afterwards at the rate of £75 per annum, with board and residence in each case.

ST. LUKE'S HOSPITAL, LONDON, S.E.—Clinical Assistant for six months. Board and residence provided.

ST. THOMAS'S HOSPITAL, Westminster-bridge.—Resident Assistant Physician.

UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Professor of Anatomy. Applications to the Secretary and Registrar, University College, Cardiff.

WARWICK COUNTY LUNATIC ASYLUM, Hatton.—Second Assistant Medical Officer. Salary £130, rising to £150, with full board.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon, for six months. Board and lodging provided.

WHITECHAPEL UNION INFIRMARY, Vallance-road, E.—Resident Assistant Medical Officer. Salary £120 per annum, in addition to rations, furnished apartments, coal, gas, and washing. Applications to the Clerk to the Guardians, Union Offices, Vallance-road, Whitechapel, E.

WOLVERHAMPTON EYE INFIRMARY.—House Surgeon, for twelve months. Salary £60 per annum, with rooms, board, and washing.

Births, Marriages, and Deaths.

BIRTHS.

ALEXANDER.—On Feb. 17th, at Mayhurst, Paignton, the wife of James Alexander, M.D., of a son.

MORRIS.—On Feb. 16th, at Gordon Lodge, Charlton-road, Blackheath, the wife of Clarke K. Morris, M.R.C.S.E., of a daughter.

SHERRINGTON.—On Feb. 21st, at Grove-park, Liverpool, the wife of C. S. Sherrington, M.D., F.R.S., of a son.

SOULBY.—At Grimsby, on Feb. 17th, 1897, the wife of C. Ernest Soulby, M.D. Brux., M.R.C.S. Eng., of a daughter.

TRACEY.—On Feb. 19th, at The Gables, Willand, Cullompton, Devon, the wife of H. Eugene Tracey, M.B., of a son.

WARDE.—On Feb. 18th, at Knowsley, Prescot, the wife of Wilfrid B. Warde, M.B., of a daughter.

MARRIAGES.

BOTT—RICHARDSON.—On Feb. 23rd, at the Chapel Royal, Savoy, by the Rev. Paul Wyatt, M.A., Chaplain, Dr. William Gibson Bott, of Newington, to Janet Campbell Richardson, of Glenholm, Whitehaven, second daughter of the late Robert Richardson, Esq.

FRY—PRINCE.—On Feb. 24th, at Marylebone Parish Church, Walter Ernest Fry, M.R.C.S., L.R.C.P. Lond., of Wateringbury, to Frances Mary (Cissie), eldest daughter of Julius Charles Prince, Esq., of Wimpole-street W.

HENSLEY—LOW.—On Feb. 24th, at the Priory Church, St. Bartholomew the Great, Philip John Hensley, M.D., F.R.C.P., of Henrietta-street, Cavendish-square, to Marie, eldest daughter of Maximilian Low, Esq., late of Park-road, Haverstock-hill.

JOSCELYNE—BEASLEY.—On Feb. 18th, at St. Augustine's, Penarth, Glamorganshire, Edward Walter Joscelyne, M.B., of Southwick, Sussex, to Constance Emily Warren, daughter of Ammon Beasley, of Northcliff, Penarth.

TIDCOMBE—BULL.—On Feb. 23rd, at St. Peter's, Hammersmith, Francis Sitwell Tidcombe, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A., of Bognor, Sussex, to Alice Jane Frances, second daughter of the late Henry Bull, solicitor.

DEATHS.

CRAIGIE.—On or about Feb. 3rd, at Pietermaritzburg, Natal, John Craigie, M.D., aged 54 years.

CRAWFORD.—On Feb. 14th, suddenly, William Smyth Crawford, B.A., F.R.C.S. Edin., of Mount Pleasant, Liverpool, in his 38th year.

GOSSE.—On Dec. 29th, at Wallaroo, South Australia, John Gosse, M.R.C.S. Eng., in his 51st year.

HUTCHINGS.—On Feb. 12th, at Young, New South Wales, Arthur Carey Hutchings, M.D., in his 46th year.

MOORE.—On Feb. 15th, at Chardwar, Bourton-on-the-Water, John Moore, M.R.C.S., aged 76 years.

POWER.—On Feb. 17th, at Hoe-park-terrace, Plymouth, Surgeon-Major Edward Richard Power, late Army Medical Staff, aged 42 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.). City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (2 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (3rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (4th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.)

FRIDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (6th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (1st).—MEDICAL SOCIETY OF LONDON.—8.30 P.M. Dr. F. de Havilland Hall: Diseases of the Nose and Throat in Relation to General Medicine. (Lettsomian Lecture.)

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (40, Leicester-square, W.C.).—8 P.M. Paper:—Mr. J. H. Badcock: Copper Amalgam, its Merits and Demerits; and also an affiliated paper on the same subject by Mr. A. Goadby.

TUESDAY (2nd).—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Papers: Mr. J. Hutchinson, jun., and Mr. E. Frazer: (1) Series of Specimens of Epithelioma of the Penis; Specimens illustrating the Changes in the Submaxillary Gland secondary to Cancer of the Mouth.—Dr. F. J. Smith: Aneurysm of the Aorta in a Boy.—Dr. C. Ogle: Dermoid Growth involving the Lung.

THURSDAY (4th).—NEUROLOGICAL SOCIETY OF LONDON.—8.30 P.M. Communications on Muscle Spindles by Dr. F. E. Batten, Prof. Victor Horsley, and Prof. Sherrington.

HARVEIAN SOCIETY.—Clinical Evening.

WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.15 P.M. Discussion on Anæmia.

FRIDAY (5th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, W.).—8 P.M. Clinical Evening. The following cases will be shown:—Mr. Keetley: (1) Congenital Dislocation of Hip after Operation; (2) Sarcoma of Male Breast.—Mr. Bidwell: (1) Operation for Extensive Epithelioma; (2) Gastro-jejunostomy.—Dr. S. Taylor: (1) Congenital Spastic Paraplegia; (2) Bell's Palsy ina Child; (3) Hydrocephalus surviving to Puberty.—Dr. Clippingdale: Congenital Ichthyosis.—Dr. Chapman: Thoracic Aneurysm.—Dr. Potter: Tumour of the Upper Jaw.—Mr. McA. Eccles: Patient after Removal of Tumour of Upper Jaw.

SATURDAY (6th).—MEDICAL SOCIETY OF LONDON.—7 P.M. Anniversary Dinner at the Whitehall Rooms, Hôtel Métropole.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (1st).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. W. G. Spencer: The Pathology of Lymphadenoid Structures (Spleen, Lymphatic Glands, Bone Marrow). (Erasmus Wilson Lecture.)

LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Mr. G. C. Wilkin: Nasal Polypi.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.)—5 P.M. Dr. Ball: Throat Cases.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Dr. A. Newsholme: Nature of Nuisances, including Nuisances the abatement of which is difficult.

SOCIETY OF ARTS.—8 P.M. Mr. C. F. Cross: The Industrial Uses of Cellulose. (Cantor Lecture.)

TUESDAY (2nd).—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Craig: Stupor. Katatonia, Dementia and Senile Insanity.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Payne: Eczema, its Treatment.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL.—4 P.M. Dr. D. Grant: The Diagnosis and Treatment of the forms of Tinnitus Aurium.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Dr. Ormerod: Clinical Lecture on Tabes and Allied Cases.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4 P.M. Dr. H. Campbell: On Cases of Peripheral Neuritis.

ROYAL INSTITUTION.—3 P.M. Prof. A. D. Waller: Animal Electricity.

SOCIETY OF ARTS.—8 P.M. Mr. M. Webb: Gesso.

WEDNESDAY (3rd).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. W. G. Spencer: The Pathology of Lymphadenoid Structures (Spleen, Lymphatic Glands, Bone Marrow). (Erasmus Wilson Lecture.)

LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-street, W., 4.30 P.M., Prof. A. Wynter Blyth: House Drainage.

HOSPITAL FOR CONSUMPTION, &c., (Brompton).—4 P.M. Dr. H. Mackenzie: Bronchiectasis.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—3 P.M. Mr. F. Ruddle (conducted by): Inspection and Demonstration at L.C.C. Common Lodging House, Parker-street, Drury-lane (number limited).

SOCIETY OF ARTS.—8 P.M. Mr. G. Gordon: English Orchards.

THURSDAY (4th).—LONDON POST-GRADUATE COURSE.—Brit. Inst. of Preventive Medicine, Gt. Russell-st., W.C., 3.30 P.M., Dr. Allan Macfadyen and Mr. A. G. Foulerton: Separation of Proteid Substances occurring in Urine.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. C. T. Williams: Clinical Lecture.

SOCIETY OF ARTS.—8 P.M. Prof. J. A. Ewing: The Mechanical Production of Cold. (Howard Lecture)

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—8 P.M. Dr. J. F. J. Sykes: Objects and Methods of Inspection.

ROYAL INSTITUTION.—3 P.M. Prof. P. Gardner: Greek History and Extant Monuments.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Cheatle: Organisms which Infect Wounds.

FRIDAY (5th).—ROYAL COLLEGE OF SURGEONS.—5 P.M. Mr. W. G. Spencer: The Pathology of Lymphadenoid Structures (Spleen, Lymphatic Glands, Bone Marrow). (Erasmus Wilson Lecture.)

LONDON POST-GRADUATE COURSE.—King's College, 3 to 5 P.M., Prof. Crookshank: Anthrax and Malignant Œdema.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. Gunn: Lecture.

THE CANCER HOSPITAL (FREE) (Fulham-road, Brompton, S.W.).—4 P.M. Mr. F. Bowreman Jessett: On Hysterectomy.

ROYAL INSTITUTION.—9 P.M. Mr. S. Bidwell: Some Curiosities of Vision.

SATURDAY (6th).—ROYAL INSTITUTION.—3 P.M. Right Hon. Lord Rayleigh: Electricity and Electrical Vibrations.

THE SANITARY INSTITUTE (Parkes Museum, Margaret-street, W.).—3 P.M. Mr. C. J. Kilgallin (conducted by): Inspection and Demonstration at the Marylebone Stoneyard, Richmond-street, Edgware-road, W.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 25th, 1897.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Feb. 19	30·27	S.W.	49	48	54·	51	41	0·16	Raining
,, 20	30·16	S.W.	48	48	65	56	48	0·08	Raining
,, 21	30·29	N.W.	48	43	83	54	47	...	Fine
,, 22	30·55	W.	51	49	85	58	47	...	Cloudy
,, 23	30·60	S.W.	48	47	79	55	47	...	Cloudy
,, 24	30·57	S.W.	48	45	58	51	47	...	Overcast
,, 25	30·23	S.W.	49	47	58	52	48	...	Cloudy

During the week marked copies of the following newspapers have been received:—*Bury Guardian, Oban Times, St. Andrews Citizen, Scotsman, Bath Journal, East Anglian Daily Times, Sheffield Telegraph, Eastern Morning News, South Wales Daily News, Halifax Guardian, Darlington Times, Blackburn Standard, Bournemouth Directory, Times of India, Cambs. Times, Pioneer Mail, Lowestoft Standard, Dereham Standard, Cromer Post, Birmingham Post, Leeds Mercury, Luton Reporter, Sussex Daily News, Rugby Advertiser, Hampshire Post, Worcestershire Chronicle, Leicester Post, Bristol Mercury, Architect, Craven Herald, Exeter Flying Post, Builder, Liverpool Daily Post, Maryport News, Warwick Times, Leigh Chronicle, Barnsley Independent, Grimsby News, Manchester Courier, Wiltshire Mirror, Loughborough Monitor, Devon Weekly Times, Warwick Advertiser, Yorkshire Post, Worcester Journal, Western Morning News, Leamington Advertiser, Reading Mercury, Stockkeeper and Fanciers' Chronicle, City Press, Weekly Free Press and Aberdeen Herald, Local Government Chronicle, Hertfordshire Mercury, Glasgow Magazine, Surrey Advertiser, Hong-Kong Weekly Press, Le Courrier de la Presse, Midland Free Press, Mining Journal, Liverpool Courier, Sunderland Daily Echo, Sanitary Record, Evening Express, Liverpool, Stalybridge Reporter, West Middlesex Herald, Tenby and County News, Isle of Wight Herald, Great Harwood Post, Local Government Journal, &c.*

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET should be addressed "To the Manager."

We cannot undertake to return MSS. not used.

A ROD FOR QUACKERY.

ALL sensible people will sympathise with the sentiments of an admirable letter which appeared recently in the *Belfast News* from the pen of Mr. John Jellie of Carrickfergus. His contention that nowadays "men and women of ordinary intelligence have less excuse for swallowing quack prescriptions in the indiscriminate way of their ancestors of fifty years ago" is excellently written and supported.

Puzzled.—There is nothing whatever to be said against the institution. The members are allowed to employ any medical man they choose at terms which seem to us quite reasonable, having regard to the class of people who would join as *beneficiares*. The medical man is thus neither sweated nor pitted in unfair competition against his professional brethren.

THE RESURRECTION OF A NEEDLE.

To the Editors of THE LANCET.

SIRS,—On the 18th inst. a very stout man, aged thirty-five years, complained of a pricking sensation in the lower part of the abdomen. On examination a long, thin substance was felt under the skin lying transversely three inches above the pubes and one inch to the left of the middle line. Under chloroform this was easily removed, and proved to be an entire needle, moderately thick, and one and a half inch long. It was quite black and rusty in patches. The only history available was that when the patient was twelve years old he was said to have swallowed either a needle or a pin. Is it possible that such a foreign substance could have remained in the soft parts of the body for twenty-three years without causing any inconvenience?

I am, Sirs, yours faithfully,

EDGAR ELLIOTT, M.R.C.S. Eng., L.R.C.P. Edin.

Wolverhampton, Feb. 21st, 1897.

Inquirens.—A retired medical man is not generally charged by his medical attendant, and the same courtesy is usually extended to his family residing with him. But a point of etiquette may be too much insisted upon, and where the attendant is a poorer man than his retired brother professional, or where much medical attendance is required, it is our feeling that fees—some fees, if not full fees—should be paid. There is no obligation whatever upon the medical man to attend a curate gratuitously, though many practitioners are happy to do so.

J. B.—We can quite understand our correspondent's feelings, but we do not think it would be advisable to open our columns to possible correspondence upon matters of so personal a nature.

A SCOTTISH DULCAMARA.

A CASE with a most wholesome result was heard before the sheriff of Glasgow upon Feb. 18th. John Sutherland, calling himself a physician and surgeon, pleaded guilty to having during the months of October, November, and December, 1896, and January, 1897, in Glasgow or elsewhere in Scotland, wilfully and falsely pretended to be a physician, &c.

Mr. R. P. Lamond, writer, who appeared for the prosecutors (and to whom we are indebted for an account of the proceedings), the Scottish Branch of the General Medical Council, said the complaint was one brought—firstly, under the Medical Act of 1858 against a man who pretended to be a doctor of medicine, a surgeon, and a qualified medical practitioner, or alternatively at common law, falsely and wilfully impersonated his deceased uncle, Daniel Sutherland, who was at one time a registered medical practitioner, and who was struck off the roll by order of the Medical Council for conduct disgraceful under the Medical Act. Respondent, he might add, both published pamphlets and advertised to the effect that he was Dr. Daniel Sutherland, whereas his name was John. In reply to some innocent party who communicated with him he wrote, upon paper of his deceased uncle:—

"October, 1895. Dear Sir,—Your favour to hand and I am much obliged. I herewith forward to you a copy of my little pamphlet. I will be very happy to take you under my professional care, and from my extensive experience in all private complaints you may rely upon being perfectly and permanently cured in a very short time. "With best wishes, I am,

"D. SUTHERLAND."

The agent for respondent stated that the late Dr. Daniel Sutherland came to Glasgow from Edinburgh some sixteen or seventeen years ago to practise the profession there. His nephew, John Sutherland, was his assistant for about fourteen years prior to his death. He became executor to the estate after his uncle's death, and thought there would be no harm if he continued to carry on the business in the same manner.

"The sheriff characterised the offence as a very serious one. Respondent had had no medical training or medical education. He knew nothing about the matter except what he might have picked up in the course of assisting Dr. Daniel Sutherland. It was bad for him to say he was Dr. Sutherland, but it was a great deal worse for a person in his position, who probably knew nothing about medicine or medical matters, to take advantage of the weakness and folly of individuals, and profess to deal with diseases of a serious character. He had no hesitation in imposing a penalty of £15 15*s.* and £10 as the expenses of the prosecution."

These remarks of the sheriff are eminently just and satisfactory, but we cannot help thinking that the penalty for frauds of this description is not half heavy enough. The man who pretends to be in possession of degrees or qualifications implying that he has undergone a definite course of instruction, and who by this implication deludes people into the belief that he knows how to treat diseases, is neither more nor less than a potential murderer. So also is the adulterator of food and the seller or consigner of bad meat. People of this description make enormous profits, and, if fined at all, should be mulcted in hundreds, not in tens.

Variola and R. L.—We do not think any useful purpose would be served by prolonging the correspondence.

"THE UNQUALIFIED ASSISTANT."

To the Editors of THE LANCET.

SIRS,—With the arguments of "One of the 'Dawdlers'" it is not worth while to deal. They neither support the contentions of "Student" (THE LANCET, Dec. 19th, 1896) nor traverse any of my statements in reply to those contentions. With the sarcasms and personalities, which constitute by much the larger part of your correspondent's long letter, I decline to deal.

I am, Sirs, yours faithfully,

Feb. 23rd, 1896. A PRACTITIONER.

Alpha.—The pursuit would be particularly bad for the complaint, and we cannot think that any saddle would obviate the harm.

NOT RIGHT.

WE have received a specimen of a large poster which is being exhibited in Brighton under the auspices of the local centre of the St. John Ambulance Association. In a prominent place are the names of the executive committee, with their addresses, and among them we notice those of four local medical men, three of whom have their qualifications appended as well. We do not think it desirable that medical men should have even their names and qualifications placarded like this, but the addition of the addresses is unpardonable. Doubtless the poster was issued without the knowledge of the gentlemen in question, but, at any rate, we appeal to their sense of what is fitting for members of the medical profession to stop such an unseemly display.

A NORTHERN DOGBERRY.

MR. BEILBY is a superintendent of the North Riding Constabulary and he also gave evidence upon Feb. 23rd before the Royal Commission on the Liquor Laws. He said that the *bonâ-fide* traveller in his district caused the police a great deal of trouble, which we can well believe, and he was of opinion that the "traveller clause" ought to be expunged from the licensing laws. He did not think that the "traveller" evil would be diminished by increasing the three mile limit to seven or eight miles: the only thing for it was abolition or the adoption of a plan of this kind—"that a person going into the country on a Sunday should present himself at police headquarters, state his destination, and obtain an official permit to obtain refreshment. Of course, the police would discriminate between respectable persons and parties who presented themselves in red handkerchiefs and clogs, and were accompanied by terrier dogs." This plan, we think, would give the police an infinity of trouble and we do not see how it would work. There is nothing to prevent any publican from serving a man who had not got a ticket except by having a corps of *agents provocateurs*, and that system is not regarded with favour by the majority of the British people. It has always seemed to us that the real way to lessen drinking is to increase the punishment for it. If a man gets so drunk as to be a nuisance to his neighbours or has to be taken to a hospital to be revived he should be heavily punished. At present, unless he commits an assault, he can give infinite trouble to numbers of people and get off scot free. People will drink and no one can prevent them, but the consequences of getting drunk should be made as disagreeable as possible.

L. N.—Another, in fact more than one other, correspondent has already employed the *non de plume*. Our opinion is an opinion, not a decision. L. N.'s guardians have used their discretion and decided one way. The Local Government Board, we are sorry to say, reads the Act differently.

"ANTISEPTIC MIDWIFERY."

To the Editors of THE LANCET.

SIRS,—In your last number Mr. Harding, writing on Antiseptic Midwifery, quotes me as recommending the following solutions:—

Carbolic acid, 1 in 50.
Tincture of iodine in water—to a sherry colour.
Condy's Fluid, 1 in 80.
Perchloride of mercury, 1 in 2000.

Permit me to say that this was taken from an old edition of my work on Midwifery, published eleven years ago, and that there is not one of them which I should recommend now as a thoroughly reliable antiseptic. The more recent experience of lying-in hospitals has conclusively shown, I think, that the only antiseptic to be thoroughly relied on for the purification of the hands is a 1 in 1000 solution of perchloride. This, however, is too strong for vaginal injections, or for ablutions of the genitals. For these purposes, I think, the best antiseptic is a solution of creoline in water, which can be conveniently carried in a concentrated liquid in the obstetric bag in the form of Jeyes' "Liquor Antisepticus." The perchloride solution is also injurious to forceps and other metallic instruments. They can best be purified by boiling, or by thorough heating in the flame of a spirit lamp, and subsequent immersion in the creoline solution, which also acts as a lubricant. Tincture of iodine, dropped into water, still finds a useful application in the exceptional cases in which it is found to be necessary to wash out the uterine cavity.

I am, Sirs, yours faithfully,
Grosvenor-street, W., Feb. 18th. 1897. W. S. PLAYFAIR.

C. G. H.—1. It has been hitherto a general rule, but it is a matter of feeling rather than of etiquette. There is, of course, no legal obligation. If the interests of the profession and those of nursing become antagonistic the rule may fall into disuse. 2. If the rule is to be generally obeyed it should cover most special cases, and the fact that the patient is not resident in the town should make no difference. 3. If the rule is not generally obeyed a special exception might well be made in favour of those resident in town. Such attendance, we think, should be given gratis.

Transfer.—See "Form of Deed for the Assignment of a Medical Practice" in Chapter iii. of "Medical Partnerships, Transfers, and Assistantships," by Mr. William Barnard and Mr. G. Bertram Stocker (Stevens and Sons, 119 and 120, Chancery-lane, London). The Form of Deed in its various developments occupies sixteen pages in this book. The stamp duty would probably be ½ per cent, or £3 15*s.* for £750.

Sister Julia Tudor—No amount of contradiction would alter so prejudiced a person's views. He has not the special knowledge to enable him to understand wholly the scientific side of the things he writes about, and those who do understand such matters prefer to let him alone. He has not described what he saw so much as what he thinks he saw.

FOOTLIGHT PHYSIOLOGY.

VEGETARIANS have hitherto been regarded as the most self-denying of mortals in the matter of food, but a new prophet has arisen and it behoves them to look to their laurels. The immortal Hiya, or She-who-must-be-obeyed, enunciated the aphorism, "Fruit is the only true food for man"; and now we have Miss Loie Fuller, the *danseuse*, declaring, through the medium of an illustrated paper, that the sole way to prolong life like the patriarchs of old to a hundred years or more is by becoming strictly frugivorous. Skirt-dancing is scarcely an occupation calculated to develop or foster asceticism in any form, but the fact remains that one of the most talented exponents of the pastime has made her appearance as an uncompromising denouncer, not only of animal food in general, but even of edibles containing starch. "We are governed by custom, whereas we ought to be led by the promptings of nature," cries this fervent disciple of Plato in her exordium, and then with some inconsistency proceeds to the solemn warning, "We are slaves to the palate, let us strive to become its master." That Miss Fuller's physiology is as novel as it is ingenious the following example will show: "The sugar in the sweet fruits serves the same end as starch in other things. Starchy substances must change first into dextrine and then into glucose ere they reach the stage dates and figs have already attained. The ripening process has brought them to the condition whereto starch is reduced in the human body. On this development nerve force is exhausted, and the tissues are gradually weakened, all which may be avoided by replacing starchy foods with naturally sweetened ones." In fact, the entire article is brimming over with learning, but, alas! that we should have to say so, it is the kind of learning against which Pope warns us.

Enquirer.—Alterations having recently been made in the Canadian medical curriculum we think that our correspondent's wisest course would be to communicate directly with the authorities in the colony. It would be best to graduate at the McGill University, Montreal, or Toronto University. Details concerning the fees to be paid and the dates of the examinations can be obtained from the deans of the medical schools at either institution.

A RARE CASE.

To the Editors of THE LANCET.

SIRS,—The following case is of interest owing to its rarity. In several hundred midwifery cases, with their endless variety, I have never met with, nor can I find, a similar one on record. On Feb. 8th I was called to attend Mrs. ——, a young primipara, who had been in labour about nine hours. Digital examination discovered a large, soft mass on the external genitals. I at first thought this was an abnormally large bunch of varicose veins, but on inspection found it to be anasarca extending on both sides of the vulva, from the pubes to the anus, being over three inches in breadth and so deep that the index finger was completely covered before it could enter the vagina, and this was only accomplished with considerable pressure. The anasarca entirely disappeared in eight days. The patient had no sign of any œdema elsewhere and her urine was free from albumin.

I am, Sirs, yours truly,
Midhurst, Feb. 22nd, 1897. A. E. PETERS.

W. B. G. writes as follows:—"W. H., farmer and carrier, club patient, paying 3*s.* 6*d.* per year, under my care six months, case purely surgical, inflamed bone and abscesses, visited seventy-five times, travelling 300 miles, had two consultations over the case. Am I entitled to fee for consultations? W. H. refuses to pay?"—We fear our correspondent has no remedy. The patient, of course, should not be a club patient. But being one, and accepted as such, he has contracted himself out of all his honourable obligations and can claim any amount of our correspondent's attendance that he may require.

A MODERN MINERVA.

THE following verses have been sent us by a correspondent, who does not say whence he obtained them:—

"She is fair in form and feature, quite an airy, fairy creature, and of art a leading teacher; she can talk and play and sing, too, in a manner quite divine.

"She contributes to THE LANCET, can survey with chain and transit, name a dance and she can dance it, and in golf and tennis playing she is always first in line.

"She can act as well as Sarah, that dramatic 'avis rara,' she is what all folk declare a very wonderful young lady who has wisdom without stint.

"She is versed in Greek and Latin, paints on canvas, plaques, and satin; quoting poetry she's pat in; but she cannot bake a biscuit that is half as soft as flint."

We appear to have been entertaining an angel unawares.

Sceptical.—No such name as H. S. Schultess-Young, M.D., appears in the current Medical Register.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Communications, Letters, &c., have been received from—

A.—Dr. E. Allen, Hawes; Messrs. Armbrecht, Nelson, and Co., Lond.; Army Medical Department, Lond., Director-General of; Association for the Oral Instruction of the Deaf and Dumb, Lond., President of; Messrs. Arnold and Sons, Lond.; Apothecaries' Hall of Ireland, Dublin, Conductor of; Dr. C. Adam, Elgin; Messrs. R. Anderson and Co., Lond.; Ancoats Hosp., Manchester, Hon. Sec. of; Mr. A. R. Anderson, Nottingham.

B.—Mr. W. B. Benge, Sampford, Peverel; Mons. O. Berthier, Paris; Bibliotheque Universitaire de Montpellier, Chief Librarian of; Mr. E. Broome, Longsight; Dr. G Beatty, Tempo; Messrs. Burgoyne, Burbidges, and Co., Lond.; Dr. J. Blomfield, Peckham; Dr. S. A. Bontor, Gt. Berkhampstead; Mr. T. H. Bickerton, Liverpool; Mr. H. Bronkhurst, Liverpool; Bombay Natural History Society, Hon. Sec. of; Mr. J. H. Busteed, Romford; Messrs. Burroughs, Wellcome, and Co., Lond.; Mrs. S. A. Bennett, Lond.; Messrs. Blondeau et Cie, Lond.; Mr. T. H. Brocklehurst, Weymouth.

C.—Mr. T. H. Coath, Southport; Mrs. Chapman, Lond.; Chelsea Hosp. for Women, Sec. of; Messrs. Cassell and Co., Lond.; Council House, Birmingham, Clerk of; City of Aberdeen, Med. Off. of Health of; Cornwall County Council, Truro, Chairman of; C. G. H., Edgbaston; Mr. H. W. Carson, Lond.; Dr. H. Campbell, Lond.; Dr. J. N. Craig, Blackpool; Mr. A. A. Church, Kew Gardens.

D.—Mr. T. Dixon, Lond.; Messrs. Davies and Co., Lond.; Messrs. Dusselsma and Co., Amsterdam; Dr. W. Lee Richardson, Lond.; Dr. J. W. Dalgleish, Bloemfontein, Orange Free State.

E.—Herr H. Eisler, Frankfurt; Dr. D. N. B. Emerson, Belgrave; Examination Hall (R.C.P. & S.), Lond., Sec. of; Dr. C. Enoch, Hamburg; Dr. L. Eikind, Lond.

F.—Dr. P. C. Fenwick, Lond.; Fromm's Extract Co., Lond., Managing Director of.

G.—Mr. C. D. Green, Upper Edmonton; Mr. J. Gillingham, Chard; Dr. Gilcriest, Sligo; Miss Grant, Askern.

H.—Dr. L. Hughes, Perth, Western Australia; Dr. L. Hugh-Jones, Chester; Hull Royal Infirmary, Sec. of; Dr. A. Hills, Acocks Green, near Birmingham; Dr. J. F. Hall, Rotherhithe; Mr. C. Heanage, Eastbourne; Miss Hooper, Lond.; Hull Borough Asylum, Willerby, near Hull; Hospital Reform Association, Cardiff, Hon. Sec. of.

J.—Mr. S. James, Simla, India; Dr. Jón Jónsson, Reykjavik, Iceland.

K.—Dr. O. J. Kauffmann, Birmingham; Mr. R. L. Knaggs, Leeds.

L.—Mons. Le Soudier, Paris; Mr. H. L. Lambert, Lond.; *La Clinique Ophthalmologique*, Paris, Editors of; Dr. J. F. Little, Lond; Dr. T. D. Luke, Grange over-Sands; Mr. H. K. Lewis, Lond.; Mr. E. M. Little, Lond.

M.—Mr. J. K. McKinley, Gt. Horton; McMurray's Royal Paper Mills, Wandsworth, Manager of; M. G. C., Lond.; Messrs. Macmillan and Co., Lond.; Medical Society of Victoria, Melbourne, Hon. Sec. of; Manager, Lond.; Dr. L. G. S. Molloy, Blackpool; Mr. A. G. Miller, Edinburgh; Surg.-Capt. D. M. Moir, Bengal; Dr. J. I. Murray, Scarborough; Military Department, India Office, Whitehall, Sec. of; M.R.C.S., Parkstone; Dr. W. C. Milroy, Wigan; Dr. MacGregor, Lond.; Maltine Manufacturing Co., Lond.; Moat House, Tamworth, Proprietor of; Mr. J. Moreton, Northwich; Medical, Lavender Hill; *The Medical Investigator*, Chicago, U.S.A., Manager of; Mr. G. H. Makins, Lond.

N.—Mr. L. Newton, Huntingdon; National Refuges for Homeless and Destitute Children, Lond., Sec. of; Nucleus, Lond.; Capt. W. Noble, Uckfield.

O.—*The Ophthalmic Record*, Chicago, U. S. A., Editorial Sec. of.

P.—Mr. J. Pond, Norwich; Messrs. Pooler and Davies, Southport; Mr. Y. J. Pentland, Edin.; Mr. R. B. Popham, Lond.; Puzzled, Derby; Mr. A. E. D. R. Peters, Midhurst; Dr. C. Porter, Stockport; Mrs. C. Pechy, Hope; Messrs. Parke, Davis, and Co., Lond.; Dr. B. Pitts, Lond.; Dr. C. E. Purslow, Birmingham; Dr. F. A. Purcell, Lond.; Prof. D'Arcy Power, Lond.

R.—Mr. W. B. Rotheroe, Lond.; Messrs. Reid and Donald, Perth; Messrs. Richardson and Co., Leicester; Mr. E. Ringrose, Newark on-Thames; Mr. R. H. Rowell, Houghton-le-Spring; Royal Academy of Medicine in Ireland, Dublin, General Sec. of; Dr. A. J. Rodocanachi, Lond.; Mr. J. W. Rolph, Kuantan, Singapore; Registered Nurses' Society, Lond., Asst. Sec. of; Messrs. Reynolds and Branson, Leeds; Mr. B. T. Read, Chigwell Row; Dr. R. R. Rentoul, Liverpool.

S.—Mr. H. Sell, Lond.; Dr. E. H. Starling, Lond.; Sanitary Wood Wool Co., Lond.; Messrs. J. Swain and Son, Lond.; Messrs. Street and Co., Lond.; Messrs. S. Smith and Co., Lond.; Mr. R. B. Smith, Manchester; Mr. W. B. Saunders, Philadelphia; Mr. J. Startin, Lond.; Secretary of State for the Colonies, Colonial Office, Lond.; Dr. D. W. Samways, Mentone; Dr. H. L. Snow, Lond.; Dr. J. Struthers, Edinburgh; Dr. W. German Scott, Lond.; Scientific Press, Lond.; Messrs. J. and W. Steward, Lond.; St. John's Nursing Institution, Lond., Lady Principal of; Dr. S. Shamoun, Alexandria, Egypt; Sanitas Co., Lond.; *The Student*, Edin., Deputy Editor of; Society of Apothecaries of London, Sec. of.

T.—Dr. W. G. Thistle, Lond.; Dr. P. Tytler, Manchester; Dr. J. C. Thresh, Chelmsford; Dr. A. H. Tubby, Lond.; Mr. N. Taylor, Lond.

U.—University of London, Registrar of.

V.—Dr. F. Vaz, Porto, Portugal.

W.—Mr. R. P. H. Whitmarsh, Ebernoe; Rev. J. T. Wrenford, Newport, Mon.; Women's Total Abstinence Union, Lond., Hon. Sec. of; Mr. R. Walker, Aberdeen; Messrs. J. Wright and Co., Bristol; Wolverhampton Eye Infirmary, Sec. of; Westray Parish Council, Clerk of; Mrs. H. Wallace, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. T. and M. Armstrong, Lond.; Messrs. Armour and Co., Lond.; Dr. A., Barrow; Alpha, Lond., A. B., Lond.; Adjuvans, Lond.; Ajax, Lond.

B.—Mr. H. Butterfield, Northampton; B. A., Lond.; Mr. W. H. Bourke, Lond.; Mr. L. A. Barrow, Woolwich; Borax, Lond.

C.—Mr. W. F. Clay, Edin.; Messrs. W. P. and W. Cox, Leicester; Prof. H. Cayley, Woolston; Dr. M. U. Chatterjee, Calcutta; Mr. D. Clifton, Stockport; Dr. R. Caton, Liverpool; Dr. J. S. Clarke, Bedlington; Mr. E. W. Cropper, Gt. Crosby; Mr. H. Cuthbert, Aston-on-Clun; Dr. J. Cooke, Lincoln, N.Z.; Messrs. Georges Carré et Naud, Paris.

D.—Dr. P. J. Daly, Cork; Mr. H. S. Deaver, Port Andar, India; Messrs. W. Douglas and Sons, Lond.; Doctor, Wood Green; Dr. W. Dixon, Eythorne; D., Lond.

E.—Evans, Handsworth; Edin., Lond.

F.—Mr. N. H. Forbes, Tunbridge Wells; Messrs. J. S. Fry and Sons, Bristol; Fides, Lond.; Fulham, Lond.

G.—Mr. G. B. Gaston, Bedford; Messrs. Giles Schacht and Co., Clifton: Galen, Southsea; Gwalia, Lond.; Granville House School, Eastbourne, Principal of; Surg. H. W. Gordon Green, H.M.S. *Impérieuse*, Pacific Station; Mr. J. George, Lond.; Mr. W. C. Gent, Bristol.

H.—Mr. J. H. Haywood, Nottingham; Hendon Grove Asylum, Med. Supt. of; Henricus, Lond.; Mr. G. Hermanni, jun., Lond.; Mr. H. E. Haycock, Ironville; Mr. J. Heywood, Manchester; Head Master, Tiverton; H. T., Lond.; H. W. S., Ashton; Mr. J. B. Hallam, Sheffield; Hygeiastic, Lond.; Dr. T. W. Hime, Bradford; Mr. W. Hosking, Masterton, N.Z.; Humphreys, Ltd., Lond.; Dr. H. Hunter, Ashburton, N.Z.; Mr. T. M. Hocken, Dunedin, N.Z.; H. C. W., Lond.

J.—Dr. C. H. L. Johnston, St. John, N.B., Canada; Juno, Lond.; J. S. T., Lond.; Surg. A. H. Jeremy, H.M.S. *Rambler*.

K.—Mr. T. S. Keys, Ton Pentre.

L.—Mr. H. H. Lacy, Warwick; London Temperance Hosp., Lond., Sec. of; L. G., Lond.; L.R.C.P., London; Lector, Lond.; H. Lupton, Lond.; Dr. Lamb, Crediton; Mr. L. Lewis, Neath.

M.—Mr. G. Masterton, Swallowfield; Dr. P. W. MacDonald, Dorchester; Messrs. J. Maclehose and Sons, Glasg.; Middlesboro' Corporation, Borough Accountant of; Medical, Lond.; Medicus, Lond.; Mr. G. J. Marshall, Lond.; M. D., Newcastle-on-Tyne; Dr. T. H. Morton, Sheffield; M.R.C.S., Lond.; Mustgo, Lond.; Dr. Maggs, Lond.; M.R.C.S., Attleboro'; Medicus, Port Talbot; Medicus, Weston-super-Mare; Dr. G. H. Munro, Home, Shottermill; Mr. A. H. Minton, Wick St. Mary; M. C., Liverpool.

N.—Dr. W. Newman, Stamford; National Hosp. for Diseases of the Heart, Lond., Sec. of; Nemo, Lond.; Norfolk, Lond.

P.—Dr. J. F. Payne, Lond.; Portsmouth Lunatic Asylum, Sec. of; Parvus, Lond.

R.—Miss Russell, West Malling; Dr. R., Newcastle-on-Tyne; R. B., Manchester, Messrs. Russells, Ltd., Liverpool; Ruppli, Lond.; Mr. A. Roche, Dublin; D. J. H. Reed, Deniston, N.Z.

S.—Mr. F. W. Smyth, Biggleswade; Messrs. F. R. Spark and Son, Leeds; Smedley's Hydropathic Co., Matlock, Manager of; South Devon and East Cornwall Hosp., House Steward; Messrs. Stubbs, Lond.; Scapula, Lond.; Scotus, Lond.; Mr. C. E. Soulby, Gt. Grimsby; Dr. A. P. Steavenson, Hurworth-on-Tees; Society of Trained Masseuses, Lond., Hon. Treas. of; Statim, Lond.; Stoke Newington Dispensary, Sec. of; Prof. Struthers, Edin.; Senex, Lond.; Syntax, Lond.; Surgeon, Lond.; Mrs. Sorsbie, Leicester; Mr. F. C. Stearn, Guernsey; Sunderland Borough Asylum, Ryhope, Clerk of; Sunderland and North Durham Eye Infirmary, Sec. of; Sartor, Marston.

T.—Dr. E. Turner, Kirkcaldy; Mr. W. J. Tilley, Warwick; Thorax, Lond.; Dr. J. R. Thompson, Liverpool.

V.—Mr. M. Vinrace, Llandudno; Vigor, Lond.; Miss A. Verrall, Swanborough; Veritas, Lond.; Vetus, Lond.

W.—Dr. J. E. White, St. Just; Mr. W. B. Warde, Prescot; Dr. C. W. Windsor, Lond.; Welsh Calvinistic Methodists' Society, Liverpool, Sec. of.

SUBSCRIPTION.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year	£1 12 6
Six Months	0 16 3
Three Months	0 8 2

POST FREE TO THE CONTINENT, COLONIES, UNITED STATES, INDIA, CHINA, AND ALL PLACES ABROAD.

One Year	£1 14 8
Six Months	0 17 4
Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to Mr. CHARLES GOOD, Manager, THE LANCET Office, 423, Strand, London.

ADVERTISING.

Books and Publications ...	Seven Lines and under	£0 5 0
Official and General announcements	Ditto	0 5 0
Trade and Miscellaneous Advertisements	Ditto	0 4 6
	Every additional Line	0 0 6
First Page (under Contents) (Books only)	when space available Five Lines and under	0 5 0
	Every additional Line	0 1 0
Quarter Page		1 10 0
Half a Page		2 15 0
An Entire Page		5 5 0

Terms for Position Pages and Serial Insertions on application.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to fictitious names or initials only.

An original and novel feature of "THE LANCET General Advertiser" is a special Index to Advertisements on pages 2 and 4, which not only affords a ready means of finding any notice, but is in itself an *additional* advertisement.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Answers are now received at this Office, by special arrangement, to Advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversière, Asnières, Paris.